CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

CITY OF ATLANTA
KEISHA LANCE BOTTOMS
MAYOR

LOCATION MAP

PROJECT DESCRIPTION:
THE CONTRACT WILL COMPRISE THE REALIGNMENT OF AN EXISTING 8-INCH SEWER TO ELIMINATE AN EXISTING AERIAL CROSSING OF PEACHTREE CREEK. THE WORK SHOWN HEREIN INCLUDES, BUT IS NOT LIMITED TO, THE INSTALLATION OF APPROXIMATELY 1,516 LINEAR FEET OF 10-INCH GRAVITY SEWER BY TRENCHLESS METHODS, THE INSTALLATION OF APPROXIMATELY 558 LINEAR FEET OF 10-INCH GRAVITY SEWER BY PIPE BURSTING, THE DIRECT REPLACEMENT OF EXPOSED 8-INCH GRAVITY SEWER WITH 220 LINEAR FEET OF 10-INCH GRAVITY SEWER AT AN EXISTING AERIAL CROSSING OF PEACHTREE CREEK, THE DEMOLITION AND REMOVAL OF AN EXISTING AERIAL SEWER CROSSING AND ITS ANCILLARY COMPONENTS (APPROXIMATELY 465 LF), THE INSTALLATION OF APPROXIMATELY 260 LINEAR FEET OF NEW 8-INCH GRAVITY SEWER AND APPURTENANCES, AND THE ABANDONMENT OF APPROXIMATELY 325 LINEAR FEET OF 8-INCH GRAVITY SEWER.

EROSION NOTE:
EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) WILL BE EMPLOYED AND ENFORCED PURSUANT TO AN EROSION AND SEDIMENT CONTROL PLAN PREPARED BY A GEORGIA SOIL AND WATER CONSERVATION COMMISSION LEVEL-2 DESIGN PROFESSIONAL. **PRIOR TO LAND-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE AREA EROSION CONTROL INSPECTOR. CALL (404) 546-1300 TO CONTACT THE INSPECTOR.**

CONSTRUCTION PLANS
FOR
HOWELL MILL ROAD SEWER IMPROVEMENTS
JUNE 30, 2017

DEPARTMENT OF WATERSHED MANAGEMENT
KISHIA L. POWELL
COMMISSIONER

SHEET INDEX

811 Know what's below. Call before you dig.

REVISIONS	
DATE	DESCRIPTION

ENGINEER OF RECORD

GENERAL NOTES:

1. THE EXISTING UTILITIES SHOWN ON THE CONTRACT DRAWINGS ARE APPROXIMATE. UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN COMPILED FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND BY SURVEY. ACCURACY AND COMPLETENESS ARE NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES HAVING UTILITIES WITHIN OR ADJACENT TO THE WORK AREA AND FOR COORDINATING ANY NECESSARY RELOCATIONS OR TIE-INS. UTILITIES SHOWN ARE APPROXIMATE. GEORGIA LAW REQUIRES THE CONTRACTOR TO NOTIFY THE UTILITIES PROTECTION CENTER MINIMUM 3 WORKING DAYS BUT NOT MORE THAN 10 DAYS BEFORE BEGINNING CONSTRUCTION. THIS NOTICE WILL REMAIN IN EFFECT FOR 30 WORKING DAYS FROM THE DATE UTILITIES PROTECTION CENTER IS NOTIFIED. IN THE ATLANTA AREA, THE CONTRACTOR IS TO CALL THE UTILITIES PROTECTION CENTER AT 770-623-4344.
2. CONTRACTOR SHALL RETAIN A LAND SURVEYOR REGISTERED IN THE STATE OF GEORGIA TO REPLACE ANY PROPERTY PINS REMOVED DURING CONSTRUCTION. A COPY OF THE FIELD NOTES SHOWING PINS RESET SHALL BE SENT TO NOLTON JOHNSON, DIRECTOR – OFFICE OF ENGINEERING SERVICES, WATERSHED MANAGEMENT, CITY OF ATLANTA, 72 MARIETTA ST, 5th FLOOR, ATLANTA GA. 30303-0330.
3. SUBSURFACE INFORMATION FOR SOIL BORINGS SHOWN ARE CONTAINED IN THE GEOTECHNICAL EXPLORATION REPORT PROVIDED BY UNITED CONSULTING.
4. CONTRACTOR SHALL HAVE A CONFORMED SET OF PLANS AND SPECIFICATIONS ON THE JOB SITE DURING WORKING HOURS.
5. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE LATEST CITY OF ATLANTA STANDARDS.
6. SEWER DISTANCES SHOWN ON THE PROFILE DRAWINGS ARE FROM CENTER-TO-CENTER OF THE MANHOLE STRUCTURES AND ARE FOR LAYOUT PURPOSES ONLY. THE INVERTS SHOWN ARE THE THEORETICAL PIPE INVERTS AT THE CENTER OF THE STRUCTURE.
7. ALL REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM-C76 CLASS III OR AS OTHERWISE NOTED ON THE CONTRACT DRAWINGS.
8. ALL PIPES ENTERING A MANHOLE WILL BE SEPARATED FROM THE MANHOLE WALL BY AN APPROVED MANUFACTURER'S BUTYL RUBBER GASKET WHICH COMPLETELY SURROUNDS THE PIPE, SEALS THE MANHOLE AND PERMITS DIFFERENTIAL MOVEMENT.
9. CLASS "B" PIPE BEDDING – IN ACCORDANCE WITH SECTION 02200 EARTHWORK, SHALL BE USED IN PUBLIC RIGHT-OF-WAY UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS. CLASS "C" PIPE BEDDING SHALL BE USED IN ALL OTHER AREAS UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS.
10. THE CONTRACTOR SHALL COORDINATE WORK WITH CITY OF ATLANTA. CONTRACTOR SHALL PROVIDE SUFFICIENT ADVANCE NOTICES OF PROPOSED WORK SCHEDULE AS DEFINED IN THE SPECIFICATIONS.
11. ALL AREAS DISTURBED AND DAMAGED BY THE CONTRACTOR, INCLUDING CURB, GUTTER AND SIDEWALK, AND TRENCH SETTLEMENT RELATED AREAS, SHALL BE RESTORED TO THE ORIGINAL CONDITIONS TO THE SATISFACTION OF THE CITY OF ATLANTA AND AT NO ADDITIONAL COST TO THE CITY.
12. CONTRACTOR SHALL INSTALL 6 FOOT HIGH TEMPORARY CHAIN LINK FENCE AROUND ALL WORK AREAS AND TO PROVIDE FOR TEMPORARY ENCLOSURE OF YARDS FOR SECURITY OF PETS, DOMESTIC ANIMALS, AND THE PROPERTY WHEN PERMANENT FENCES MUST BE REMOVED DUE TO CONSTRUCTION OF STORM OR SANITARY SEWER LINES.
13. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH "THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA", LATEST EDITION.
14. THE CONTRACTOR SHALL REPLACE ALL FENCING DAMAGED BY CONSTRUCTION. FENCING SHALL BE REPLACED TO ORIGINAL SIZE, QUALITY AND CONDITION, AND TO THE APPROVAL OF THE CITY OF ATLANTA OR ITS AUTHORIZED REPRESENTATIVE.
15. PRIOR TO FINAL ACCEPTANCE OF WORK, CONTRACTOR SHALL PROVIDE "AS-BUILT" MARK-UP PLANS IN ACCORDANCE WITH PARAGRAPH GC-28.4 OF THE GENERAL CONDITIONS TO THE CITY OF ATLANTA ASSIGNED INSPECTOR FOR FINAL INSPECTION OF ALL NEWLY INSTALLED STORM AND SANITARY SEWERS AS WELL AS ELECTRONIC "AS-BUILT" TABLES PER SPECIFICATION SECTION 01720: RECORD DOCUMENTS. AFTER THE FINAL INSPECTION APPROVAL, CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS TO THE OFFICE OF ENGINEERING SERVICES, UTILITY DESIGN GROUP, PROJECT DESIGN ENGINEER AND ELECTRONIC "AS-BUILT" TABLES TO THE CITY'S CONSENT DECREE PROGRAM DESIGN MANAGER.
16. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM THE CITY OF ATLANTA DEPARTMENT OF PUBLIC WORKS AND IF APPLICABLE, FROM THE GEORGIA DEPARTMENT OF TRANSPORTATION PRIOR TO ANY REQUIRED LANE CLOSURES.
17. INSTALLATION OF NEW STORM AND SANITARY SEWERS, INCLUDING TRENCH EXCAVATION, SHOULD BE FINISHED BY CLOSE OF DAY, OR ADEQUATELY COVERED FOR SAFETY.
18. CONTRACTOR SHALL INSTALL STEEL COVER PLATES TO PROTECT AREAS, INCLUDING DRIVEWAYS LEFT OPEN AT THE END OF EACH DAY'S WORK. CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS AND MAILBOXES AT ALL TIMES.
19. THE LENGTH OF PIPE FOR PAYMENT PURPOSE WILL BE CONSIDERED THE DISTANCE FROM THE CENTER OF MANHOLE TO CENTER OF MANHOLE, SUBTRACTED BY THE WIDTH OF THE MANHOLE.
20. CONTRACTOR SHALL ENTER UPON PRIVATE PROPERTY ONLY AFTER OBTAINING RIGHT OF ENTRY LETTER IN ACCORDANCE WITH PARAGRAPH GC-15 OF THE GENERAL CONDITIONS FROM THE CITY OF ATLANTA AND NOTIFYING HOMEOWNER IN ADVANCE.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL UTILITIES WITHIN THE EXCAVATION LIMITS DURING CONSTRUCTION.
22. CONTRACTOR SHALL LOCATE AND REFERENCE ALL WATER METERS AND VALVES WITHIN THE CONSTRUCTION LIMITS. THE REFERENCE POINTS SHALL BE LOCATED SO THAT THE REFERENCE WILL NOT BE DISTURBED AND THE LOCATION OF THE METERS AND VALVES CAN BE RE-ESTABLISHED. A PERMANENT WRITTEN RECORD OF THE REFERENCE POINTS WILL BE FURNISHED TO THE CITY OF ATLANTA. ACCESS TO FIRE HYDRANTS WILL BE MAINTAINED AT ALL TIMES.
23. ALL TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH SECTION 02200 EARTHWORK, SECTION 02730 SEWERS AND ACCESSORIES, AND CITY OF ATLANTA STANDARD DETAILS. TEMPORARY TRENCH EXCAVATION SHALL AT ALL TIMES CONFORM TO THE SAFETY REQUIREMENTS OF OSHA.
24. THE SURVEY INFORMATION SHOWN HEREIN IS BASED ON DATABASE FURNISHED BY THE CITY OF ATLANTA WITH AUGMENTATION BY FIELD SURVEYS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STAKEOUT ALL PROPOSED WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION.
25. AT COMPLETION OF SEWER AND WATER CONSTRUCTION SET ALL MANHOLES, VALVE BOXES, METERS, AND APPURTENANCES FOR PROPER FINAL GRADE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE ABOVE ITEMS UNTIL SYSTEM IS ACCEPTED BY THE CITY.
26. TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY FOR THE SOIL AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D-698 AND AASHTO T-99) RESULTS IN ACCORDANCE WITH SPECIFICATION SECTION 02200, EARTHWORK. BACKFILL MATERIAL SHALL BE FREE OF ROOTS, ROCKS AND OTHER DELETERIOUS MATTER.
27. TOP OF CASTING FOR ALL NEW MANHOLES ARE PROJECTED ELEVATIONS BASED ON TOPOGRAPHICAL DATA. ALL ELEVATIONS ARE TO BE VERIFIED TO CONTRACTOR'S SATISFACTION.
28. CONTRACTOR SHALL FIELD VERIFY ALL INVERT ELEVATIONS, ANGLES, AND SERVICE STATUS.
29. MANHOLES WITHIN PUBLIC RIGHT-OF-WAY TO BE ABANDONED IN PLACE IN ACCORDANCE WITH ATLANTA SPECIFICATIONS.

TRAFFIC NOTES:

1. CONTRACTOR SHALL MAINTAIN ONE-WAY TRAVEL ALONG PEACHTREE BATTLE AVENUE BETWEEN PEACHTREE BATTLE CT AND HOWELL MILL ROAD. CONTRACTOR SHALL PROVIDE A DETOUR ROUTE PLAN IN ACCORDANCE WITH SECTION 01550 TRAFFIC REGULATION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING TRAFFIC CONTROL PLANS AND DETAILS TO THE AUTHORITY HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO THE CITY OF ATLANTA DIVISION OF TRAFFIC AND TRANSPORTATION IN ACCORDANCE WITH SECTION 01550 TRAFFIC REGULATION. TRAFFIC CONTROL PLANS SHALL BE PREPARED BY AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN STATE OF GEORGIA.
3. VEHICULAR AND PEDESTRIAN TRAFFIC IS TO BE MAINTAINED OVER THE EXISTING ROADWAYS AND INTO THE EXISTING DRIVEWAYS WITHIN THE LIMITS OF THE PROJECT AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE CITY OF ATLANTA DIVISION OF TRAFFIC AND TRANSPORTATION AND THE CITY OF ATLANTA POLICE DEPARTMENTS FOR TRAFFIC OPERATIONS AND PARKING PROHIBITIONS DURING CONSTRUCTION.
4. PROPERTY OWNERS AND OWNERS OF ADJOINING PROPERTIES SHALL BE GIVEN A WRITTEN NOTICE AT LEAST FIVE DAYS PRIOR TO THE BEGINNING OF ANY WORK WHICH INTERFERES WITH THE OWNER'S NORMAL PASSAGE.
5. THE CONTRACTOR SHALL OBTAIN LANE CLOSURE PERMITS IN ACCORDANCE WITH SECTION 01550 TRAFFIC REGULATION.
6. CONTRACTOR SHALL CONSULT THE CITY OF ATLANTA'S RIGHT-OF-WAY MANUAL FOR STREET DESIGNATIONS AND RESTRICTIONS FOR WORKING WITHIN THE CITY'S RIGHT-OF-WAY.
7. ALL MAINTENANCE AND PROTECTION OF TRAFFIC DEVICES SHALL CONFORM TO THE GEORGIA DEPARTMENT OF TRANSPORTATION REQUIREMENTS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
8. FINAL RESPONSIBILITY FOR THE INSTALLATION OF ADEQUATE PRECAUTIONS AND FOR THE MAINTENANCE AND PROTECTION OF THE TRAVELING PUBLIC AND HIS OWN PERSONNEL SHALL REST WITH THE CONTRACTOR.

LEGEND

DESCRIPTION	EXISTING	PROPOSED
RIGHT OF WAY	R/W	
LAND LOT LINE		
PROPERTY LINE	PL	
CENTER LINE/BASE LINE	℄	℄ ℄
EASEMENT (DRAINAGE, SANITARY)		
EASEMENT (TEMPORARY)		
DEMOLITION AREA		
FENCE		
EDGE OF PAVEMENT		
CENTER LINE OF SWALE/CREEK		
CONTOUR	900	900
FLOODPLAIN ELEVATION		
UNDERGROUND POWER	UE	
OVERHEAD POWER	OHE	
UNDERGROUND TELEPHONE	UT	
UNDERGROUND TV CABLE	CTV	
GAS LINE	G G G	
WATER LINE	W W W	
SANITARY SEWER LINE		
SANITARY SEWER LINE (REPLACE)		
SANITARY SEWER LINE (ABANDON)		
STORM DRAIN LINE	ST ST	ST ST
GUY POLE		
UTILITY POLE (T=TELEPHONE, P=POWER, L=LIGHT)		
UNDERGROUND TELEPHONE BOX	T	
TELEPHONE MANHOLE	TM	
METER BOX (W=WATER, G=GAS)	W G	
CATCH BASIN		
DROP INLET		
HEADWALL		
CITY OF ATLANTA CONTROL POINT (DELTA POINT)		
PROPERTY MARKER (IPF=IRON PIN FOUND)		
RETAINING WALL		
CLEANOUT	CO	
SIDEWALK		
CURB AND GUTTER		
SIGNIFICANT TREES	TREE	
SOIL BORING		
WATER VALVE	WV	
WATER METER	WM	
FIRE HYDRANT		
SANITARY SEWER MANHOLE	S	
STORM DRAIN MANHOLE	D	

EROSION CONTROL LEGEND

- WRESTED VEGETATION ELEVATION
- 25' GAEPD UNDISTURBED BUFFER
- 75' CITY OF ATLANTA STREAM BUFFER
- ORANGE SAFETY FENCE
- SILT FENCE
- COMPOST FILTER SOCK
- INLET PROTECTION
- CONSTRUCTION EXIT
- CONTRACTOR WORK AREA
- DISTURBED AREA
- GAEPD BUFFER IMPACT AREA
- TEMPORARY STREAM CROSSING
- SOIL TYPE BOUNDARY
- C□A — SOIL TYPE
- D□1 — DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
- D□2 — DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
- D□3 — DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)
- D□ — DUST CONTROL
- S□ — STREAMBANK STABILIZATION

- FEMA REGULATORY FLOODWAY
- FEMA 100 YR FLOOD BOUNDARY
- FEMA 500 YR FLOOD BOUNDARY

ABBREVIATIONS

ABAND	ABANDONED
APPROX	APPROXIMATE
BRK	BRICK
CB	CATCH BASIN
CC	CENTER TO CENTER
CIRCUM	CIRCUMFERENCE
CL	CLASS
CO	CLEAN OUT
CCTV	CLOSED CIRCUIT TELEVISION
COMB	COMBINED
CONC	CONCRETE
CP	CLAY PIPE
C	CONDUIT
CMP	CORRUGATED METAL PIPE
CULV	CULVERT
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
DW	DRIVEWAY
DIP	DUCTILE IRON PIPE
DI	DROP INLET
E/P	EDGE OF PAVEMENT
EL	ELEVATION
EXIST	EXISTING
FH	FIRE HYDRANT
FT	FOOT OR FEET
G	GAS
GM	GAS METER
GV	GAS VALVE
HORIZ	HORIZONTAL
HE	HORIZONTAL ELLIPTICAL
IN	INCH
ID	INSIDE DIAMETER
INV	INVERT
LT	LEFT
LF	LINEAR FEET
LOC	LIMITS OF CONSTRUCTION
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
NO	NUMBER
OD	OUTSIDE DIAMETER
P	PIPE
PL	PROPERTY LINE
PROP	PROPOSED
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RQD	REQUIRED
REV	REVISED OR REVISION
RT	RIGHT
R/W	RIGHT-OF-WAY
SECT	SECTION
SPEC	SPECIFICATION (S)
STL	STEEL
SD	STORM DRAIN SEWER
SS	SANITARY SEWER
ST	STREET
T	TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER
WM	WATER METER
WV	WATER VALVE
UNT	UNNAMED TRIBUTARY

UTILITY COMPANIES

A.G.	ATLANTA GAS LIGHT COMPANY
B.D.W.	BUREAU OF DRINKING WATER
G.P.	GEORGIA POWER COMPANY
CTV	UNDERGROUND CABLE COMPANIES
UT	UNDERGROUND TELEPHONE COMPANIES

CH2M | ROH&DFOX

674854

HM-G-001_676886.dwg

G-001

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
GENERAL NOTES

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: J BURTON	CHECKED BY: D JENKINS	APPROVED BY: T KELLEY	DATE: JUN 2017

PROJECT NUMBER:

SHEET OF 2 29

100% REVIEW DOCUMENTS

MANHOLE TABLE					
MANHOLE	WORK	NORTHING	EASTING	DIAMETER	COVER TYPE
MH-1	NEW	1391469.61	2219409.12	4-FT	SOLID FRAME AND COVER
MH-2	NEW	1391304.73	2219731.49	4-FT	SOLID FRAME AND COVER
MH-3	NEW	1391336.22	2219896.66	4-FT	SOLID FRAME AND COVER
MH-4	NEW	1391326.00	2220164.67	4-FT	SOLID FRAME AND COVER
MH-5	NEW	1391350.67	2220321.41	4-FT	SOLID FRAME AND COVER
MH-6	NEW	1391503.11	2220660.47	4-FT	SOLID FRAME AND COVER
MH-7	NEW	1391460.98	2220846.87	4-FT	SOLID FRAME AND COVER
MH-8	NEW	1390979.86	2220868.27	4-FT	SOLID FRAME AND COVER

PEACHTREE BATTLE AVE
HOWELL MILL RD
SEE DRAWING C-02
SEE DRAWING C-03
SEE DRAWING C-04
SEE DRAWING C-05
SEE DRAWING C-06
SEE DRAWING C-07
SEE DRAWING C-08
SEE DRAWING C-09
MH-1
MH-2
MH-3
MH-4
MH-5
MH-6
MH-7
MH-8
PROPOSED SEWER PIPE-BURST OR DIRECT REPLACEMENT
PROPOSED SEWER IN TUNNEL
SEWER REMOVAL OR ABANDONMENT
PROPOSED SEWER OPEN CUT
UNT TO PEACHTREE CREEK
PEACHTREE CREEK
PEACHTREE BATTLE CIRCLE
WESLEY DRIVE NW
RIADA DRIVE NW
I-75
N
0 100 200 200
SCALE IN FEET HORTIZONTAL

HM-C-001_676886.dwg

C-01

Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

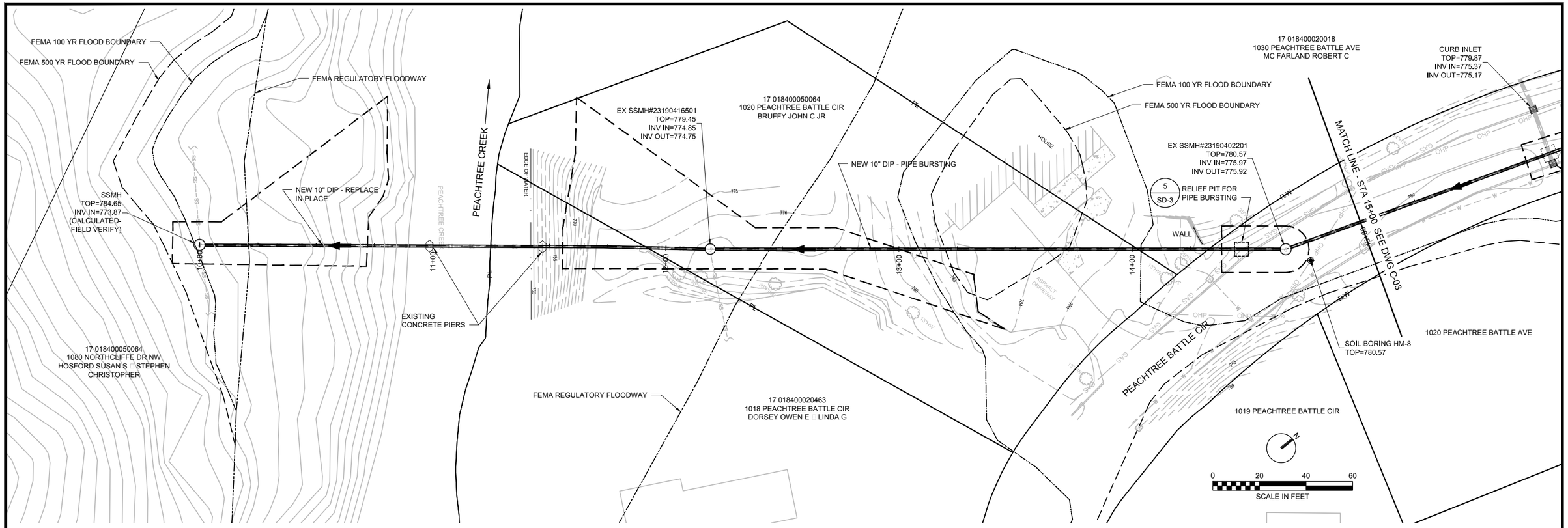
ENGINEER OF RECORD

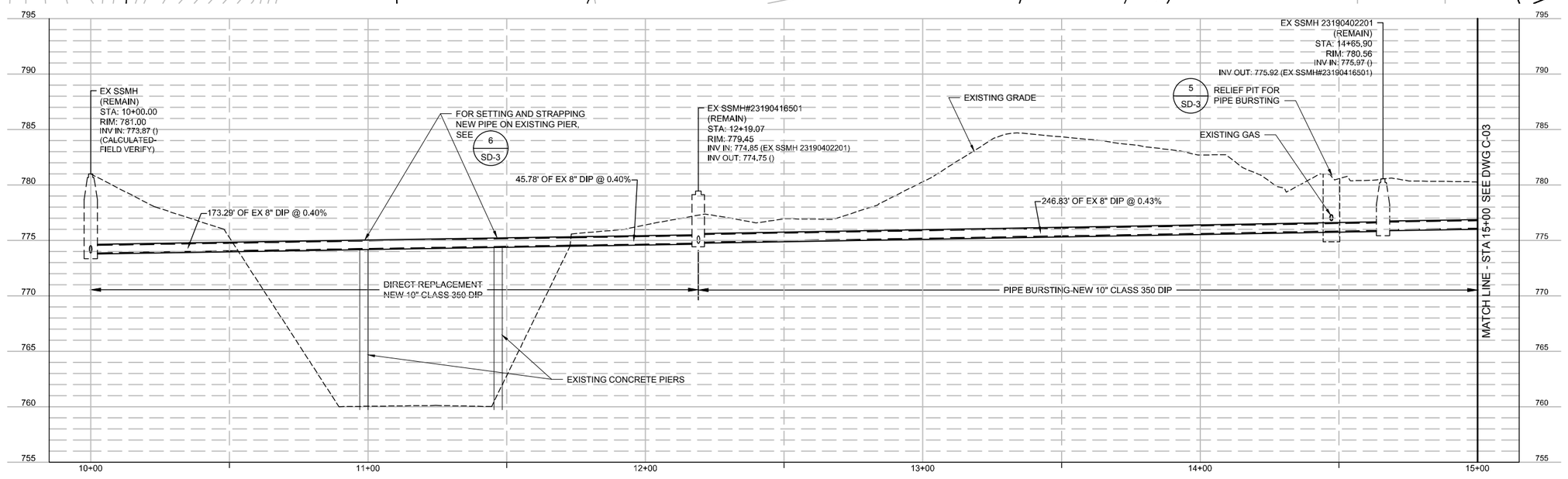
CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
OVERALL PLAN

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY D CORBETT	DESIGNED BY J BURTON	CHECKED BY D JENKINS	APPROVED BY T KELLEY	DATE JUN 2017
PROJECT NUMBER:				SHEET 3 OF 29

100% REVIEW DOCUMENTS





PIPE BURSTING NOTES:

1. CONTRACTOR TO PERFORM PRE AND POST CONSTRUCTION CCTV INSPECTION OF THE SEWER TO BE REPLACED IN ACCORDANCE WITH SECTION 02752 INTERNAL SEWER CONDITION ASSESSMENT.
2. CONTRACTOR SHALL REPAIR PIPE BLOCKAGES AND/OR SAGS IN ACCORDANCE WITH SECTION 02757 POINT REPAIR OF SANITARY SEWERS THAT WOULD IMPEDE OR PROHIBIT THE INSTALLATION OF NEW PIPING BY PIPE BURSTING AT PROPER LINE AND GRADE.
3. CONTRACTOR TO PREPARE AND SUBMIT BYPASS PUMPING/FLOW DIVERSION PLAN IN ACCORDANCE WITH SECTION 02601 WASTEWATER FLOW CONTROL PRIOR TO PIPE BURSTING OPERATIONS. THE PLAN SHALL BE AGREED TO BY THE DEPARTMENT OF WATERSHED MANAGEMENT OR ITS REPRESENTATIVES BEFORE THE CONTRACTOR SHALL BE ALLOWED TO COMMENCE BYPASS PUMPING OR FLOW DIVERSION OPERATIONS.
4. INSERTION AND RECEIVING PITS SHALL BE PREPARED AND BACKFILLED IN ACCORDANCE WITH SECTION 02200 EARTHWORK. THE LOCATION OF INSERTION AND RECEIVING PITS ARE TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE DEPARTMENT OF WATERSHED MANAGEMENT OR ITS REPRESENTATIVES.
5. CONTRACTOR SHALL LOCATE AND PHYSICALLY DISCONNECT ALL LATERALS FROM THE EXISTING MAIN PRIOR TO PIPE BURSTING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND RECONNECTING ALL LIVE LATERALS TO THE MAIN PIPE. CAPPED AND/OR ABANDONED LATERALS SHALL NOT BE RECONNECTED TO THE NEW MAIN.
7. LEAK TEST NEW SANITARY SEWER MAIN PRIOR TO PERMANENT RESURFACING IN ACCORDANCE WITH 02730 SEWERS AND ACCESSORIES.

0 20 40 60
SCALE IN FEET HORTIZONTAL

0 5 10 15
SCALE IN FEET VERTICAL

ch2m ROH&DFOX

HM-C-002_676886.dwg

C-02

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

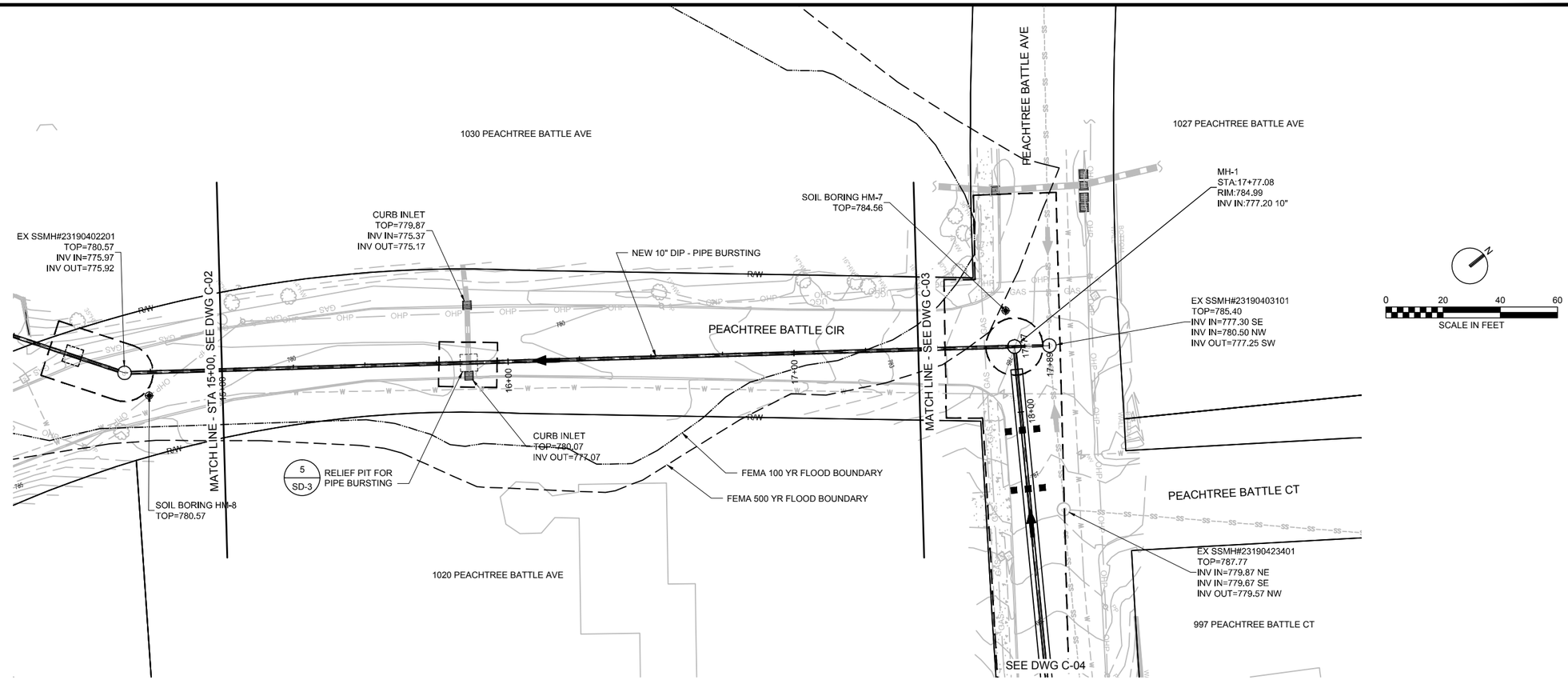
REVISIONS		
NO.	DATE	DESCRIPTION

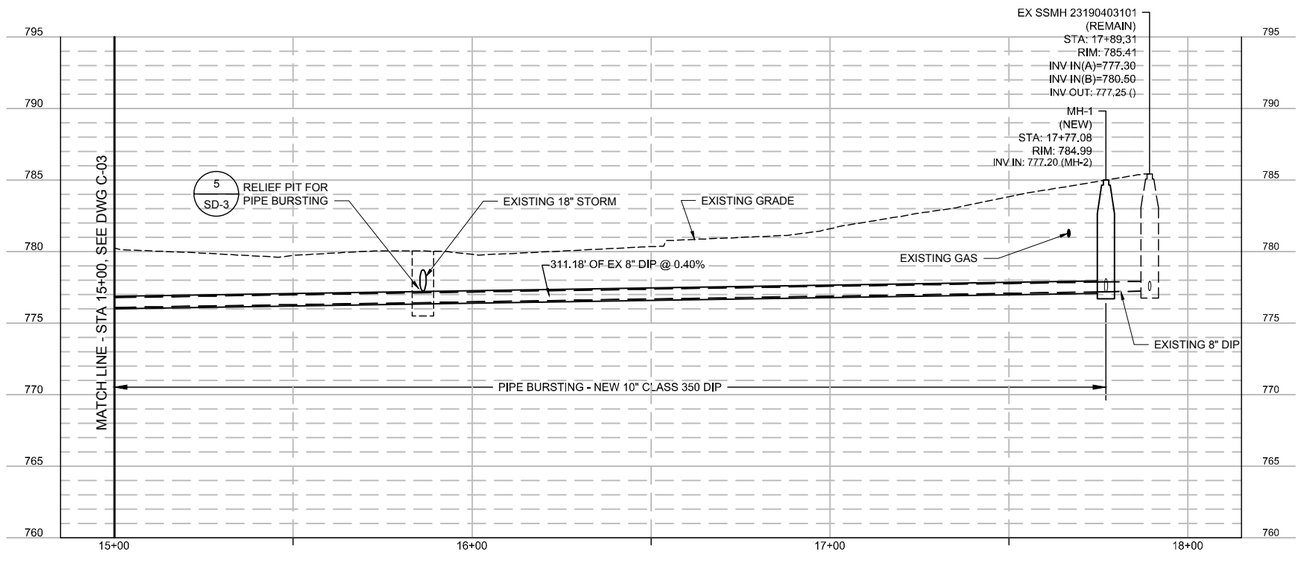
CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE-STA 10+00 TO STA 15+00

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: J BURTON	CHECKED BY: D JENKINS	APPROVED BY: T KELLEY	DATE: JUN 2017
ENGINEER OF RECORD	PROJECT NUMBER:		SHEET OF: 4 29	

100% REVIEW DOCUMENTS





PIPE BURSTING NOTES:

1. CONTRACTOR TO PERFORM PRE AND POST CONSTRUCTION CCTV INSPECTION OF THE SEWER TO BE REPLACED IN ACCORDANCE WITH SECTION 02752 INTERNAL SEWER CONDITION ASSESSMENT.
2. CONTRACTOR SHALL REPAIR PIPE BLOCKAGES AND/OR SAGS IN ACCORDANCE WITH SECTION 02757 POINT REPAIR OF SANITARY SEWERS THAT WOULD IMPEDE OR PROHIBIT THE INSTALLATION OF NEW PIPING BY PIPE BURSTING AT PROPER LINE AND GRADE.
3. CONTRACTOR TO PREPARE AND SUBMIT BYPASS PUMPING/FLOW DIVERSION PLAN IN ACCORDANCE WITH SECTION 02601 WASTEWATER FLOW CONTROL PRIOR TO PIPE BURSTING OPERATIONS. THE PLAN SHALL BE AGREED TO BY THE DEPARTMENT OF WATERSHED MANAGEMENT OR ITS REPRESENTATIVES BEFORE THE CONTRACTOR SHALL BE ALLOWED TO COMMENCE BYPASS PUMPING OR FLOW DIVERSION OPERATIONS.
4. INSERTION AND RECEIVING PITS SHALL BE PREPARED AND BACKFILLED IN ACCORDANCE WITH SECTION 02200 EARTHWORK. THE LOCATION OF INSERTION AND RECEIVING PITS ARE TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE DEPARTMENT OF WATERSHED MANAGEMENT OR ITS REPRESENTATIVES.
5. CONTRACTOR SHALL LOCATE AND PHYSICALLY DISCONNECT ALL LATERALS FROM THE EXISTING MAIN PRIOR TO PIPE BURSTING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND RECONNECTING ALL LIVE LATERALS TO THE MAIN PIPE. CAPPED AND/OR ABANDONED LATERALS SHALL NOT BE RECONNECTED TO THE NEW MAIN.
7. LEAK TEST NEW SANITARY SEWER MAIN PRIOR TO PERMANENT RESURFACING IN ACCORDANCE WITH 02730 SEWERS AND ACCESSORIES.

0 20 40 60
SCALE IN FEET HORTIZONTAL

0 5 10 15
SCALE IN FEET VERTICAL

ch2m ROHADFOX

HM-C-003_676886.dwg

C-03

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

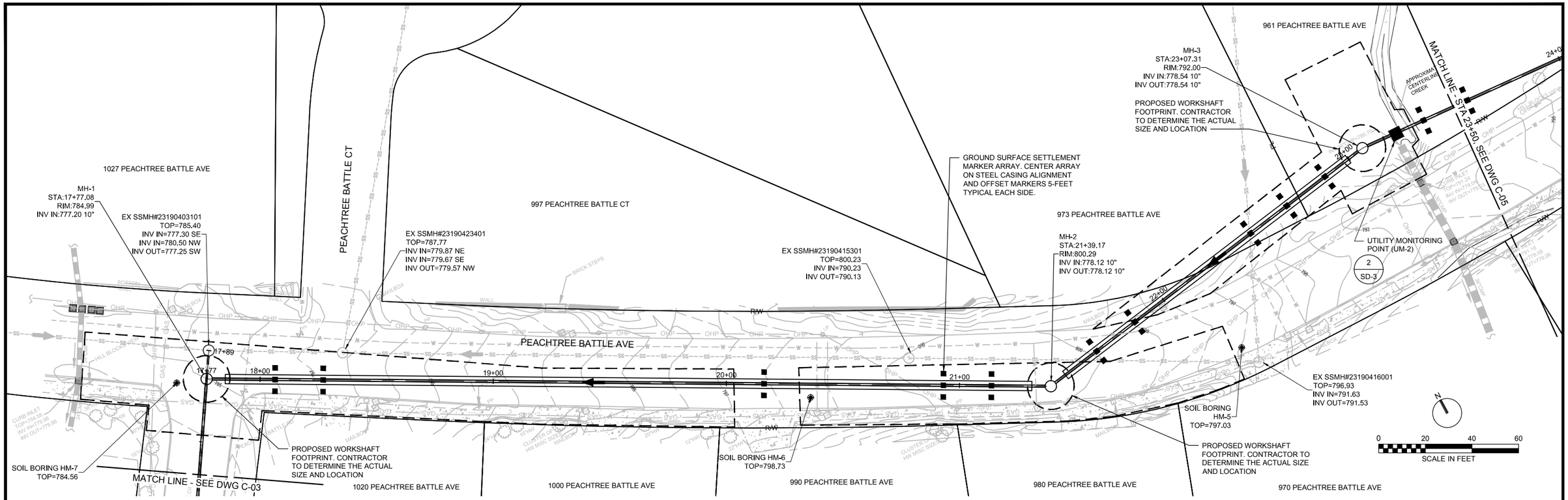
HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE- STA 15+00 TO 17+77.08

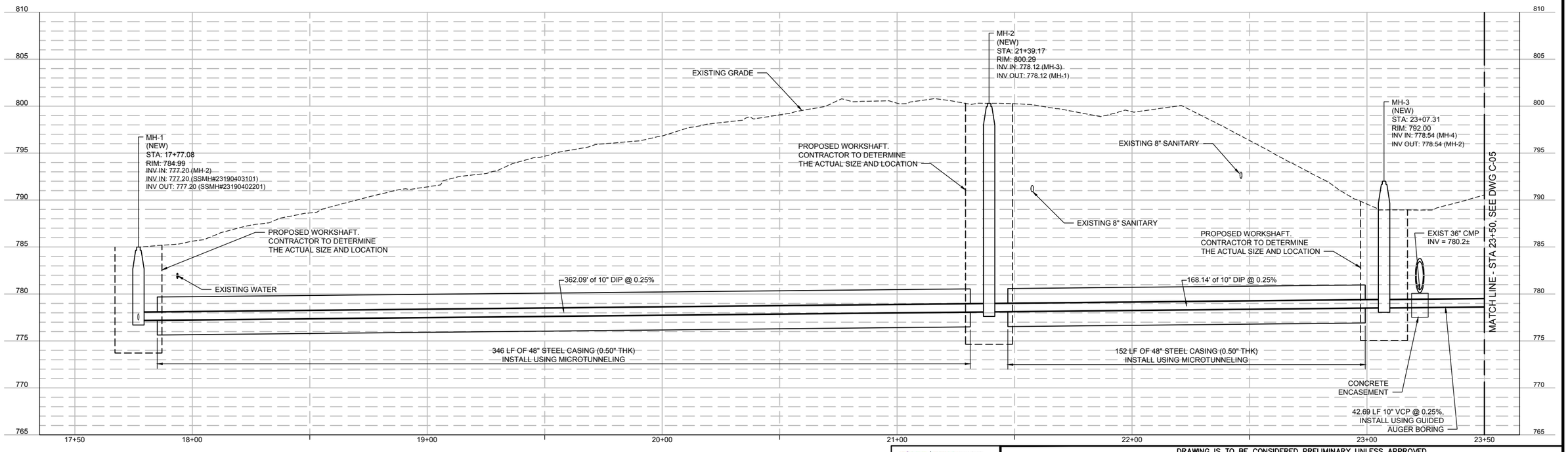
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET 5 OF 29

100% REVIEW DOCUMENTS





0 20 40 60
SCALE IN FEET HORIZONTAL

0 5 10 15
SCALE IN FEET VERTICAL

Know what's **below.** **Call** before you dig.

ch2m | ROBINSON FOX

676886

HM-C-004_676886.dwg

C-04

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE-STA 17+77.08 TO STA 23+50

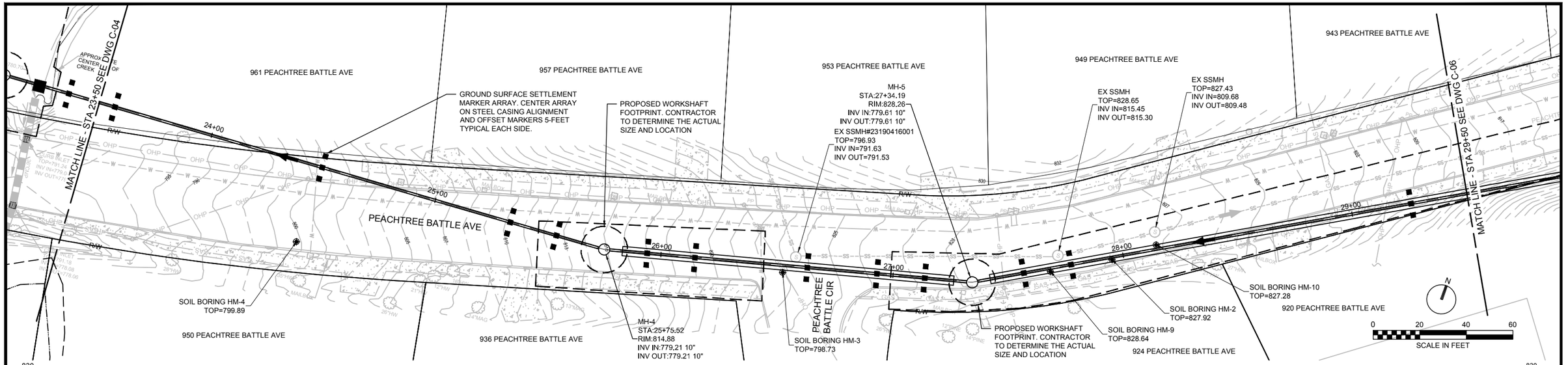
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE

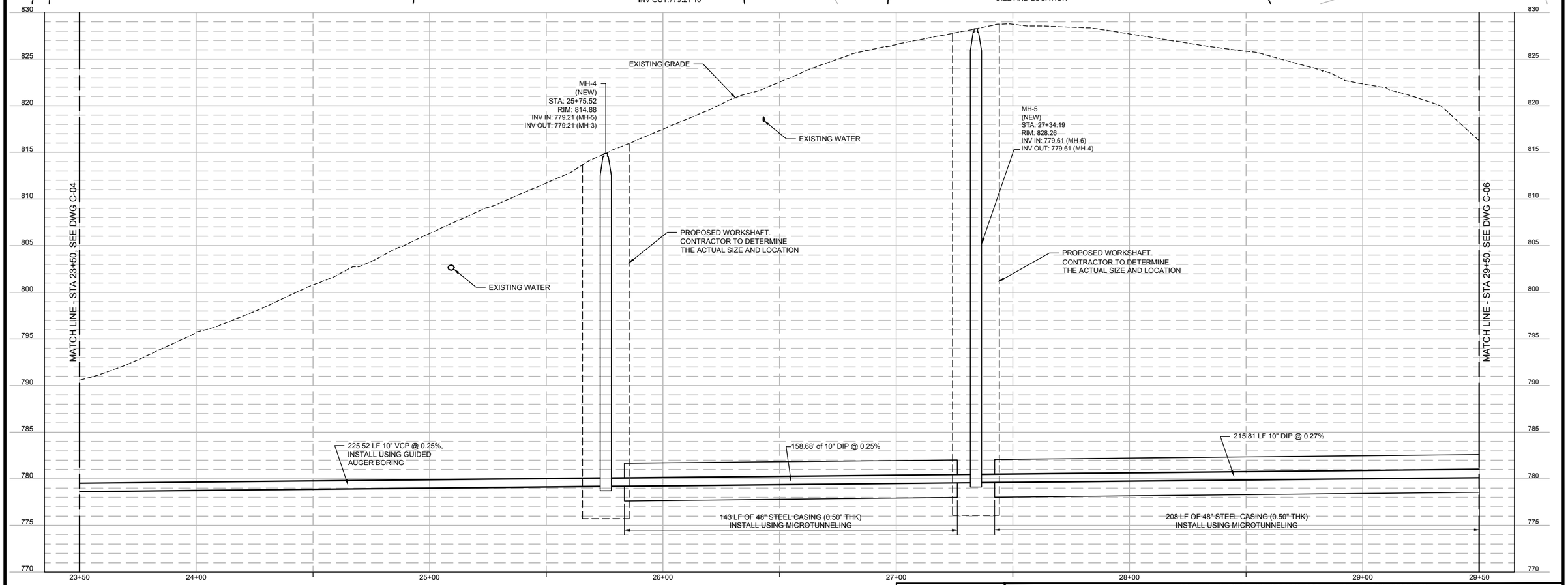
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET 6 OF 29

100% REVIEW DOCUMENTS





ch2m ROH&DFOX

HM-C-005_676886.dwg

C-05

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

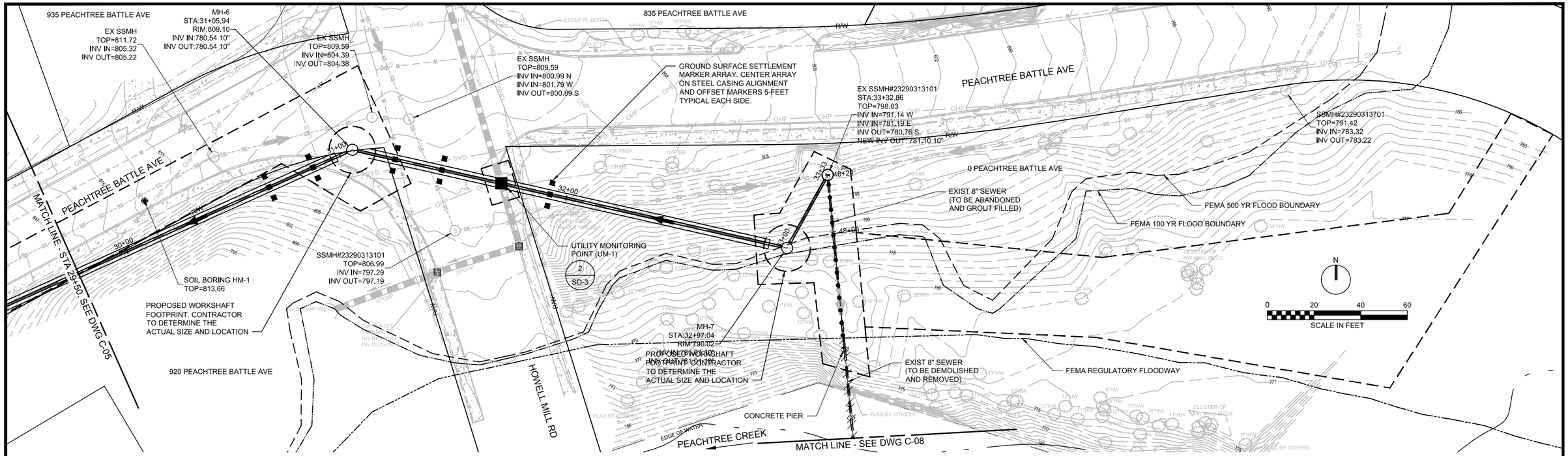
HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE-STA 23+50 TO STA 29+50

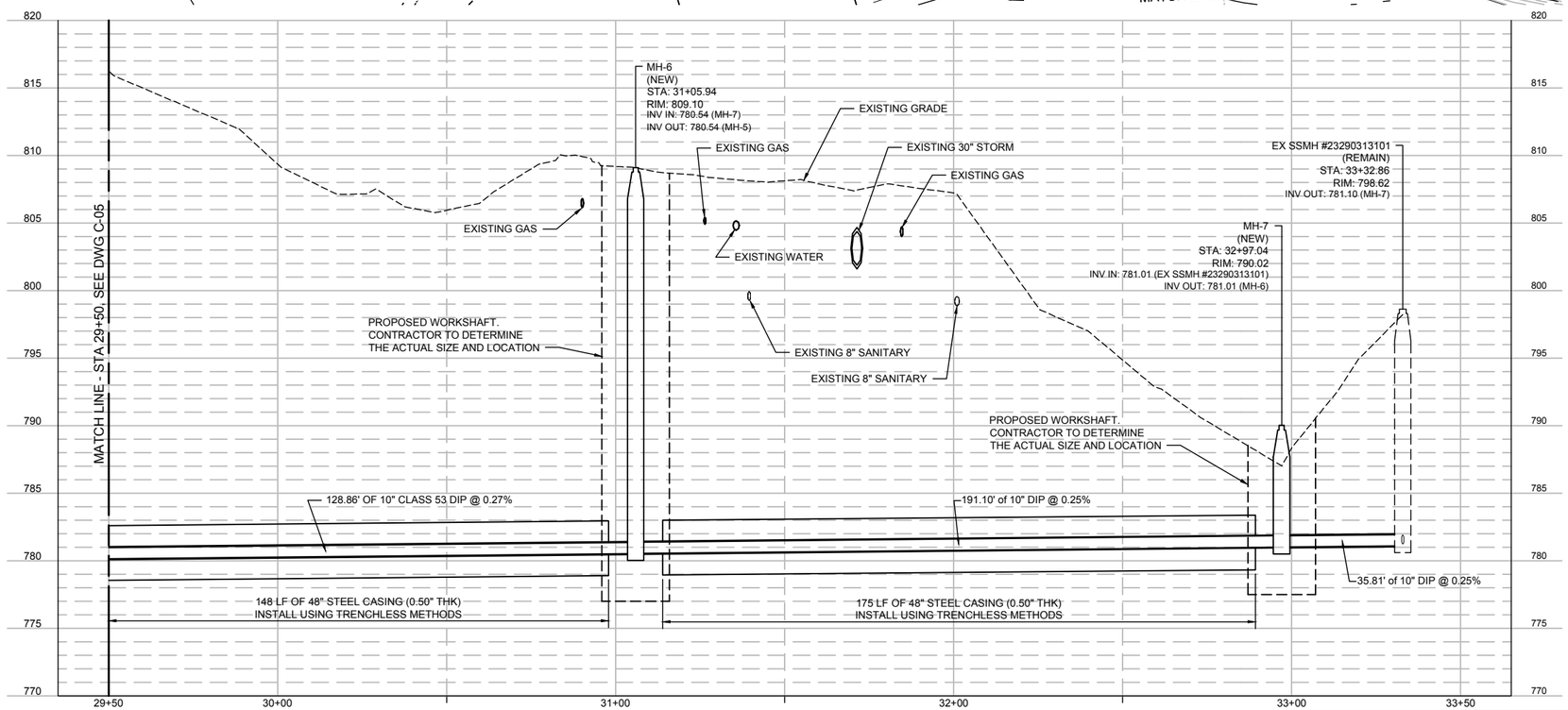
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: J BURTON	CHECKED BY: D JENKINS	APPROVED BY: T KELLEY	DATE: JUN 2017

PROJECT NUMBER:

SHEET 7 OF 29

100% REVIEW DOCUMENTS





0 20 40 60
SCALE IN FEET HORTIZONTAL

0 5 10 15
SCALE IN FEET VERTICAL

ch2m: ROH&DFOX

HM-C-006_676886.dwg

C-06

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE-STA 29+30 TO STA 33+18.52

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE

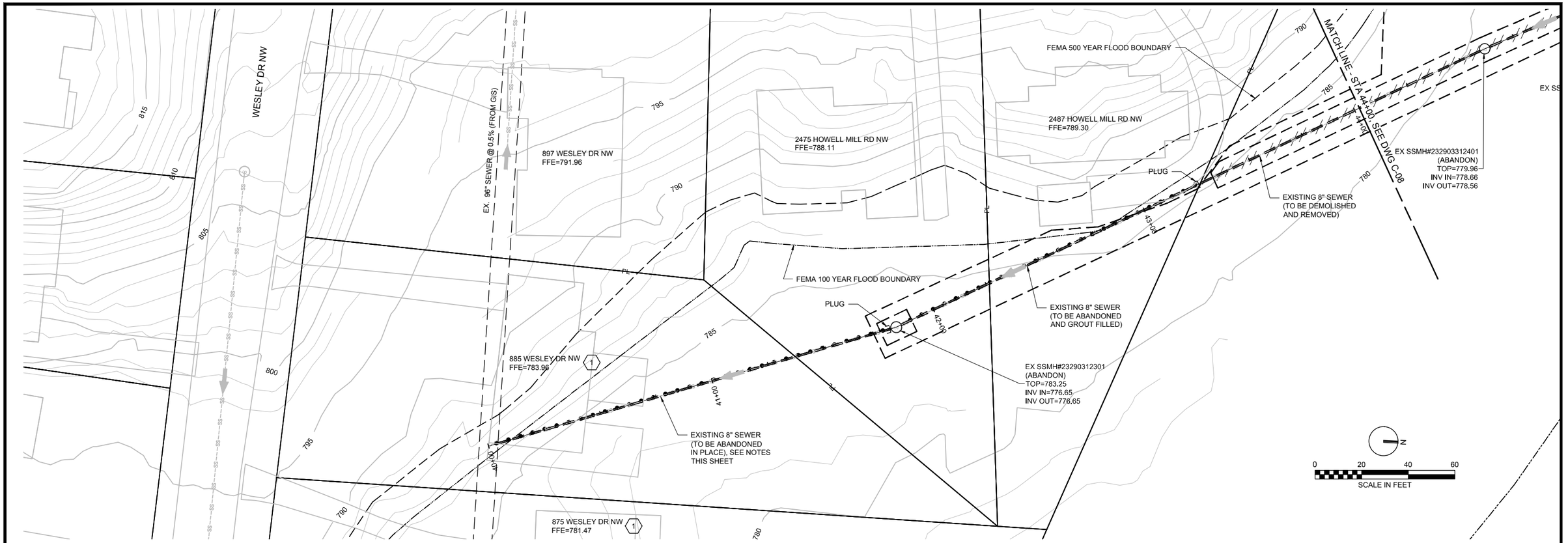
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET 8 OF 29

100% REVIEW DOCUMENTS

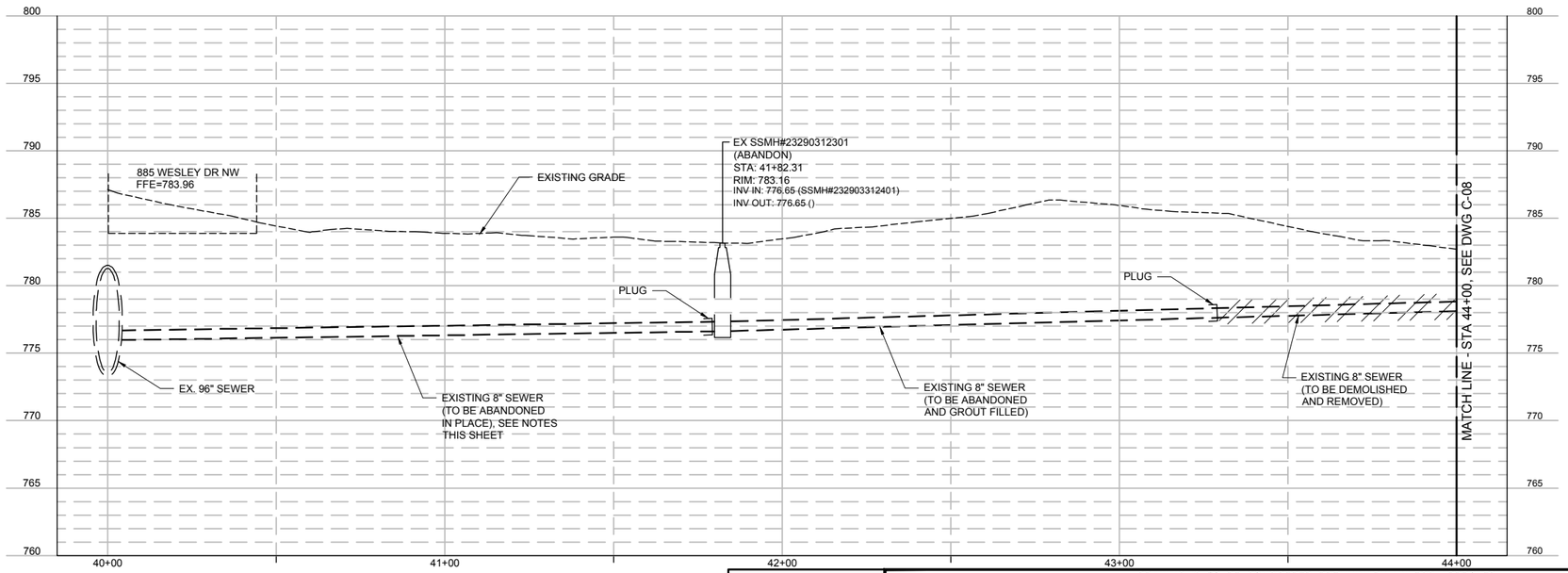


NOTES:

1. PRIOR TO BEGINNING THE WORK, CONTRACTOR SHALL CONFIRM THE LOCATION OF EXISTING 8-INCH GRAVITY SEWER, ALL AFFECTED SERVICE LATERALS, AND EXISTING 8-INCH CONNECTION TO THE PEACHTREE CREEK TRUNK SEWER. CONTRACTOR SHALL ALSO CLEAN EXISTING 8-INCH SEWER LINE AND VIDEO WITH CLOSED CIRCUIT TELEVISION TO IDENTIFY CONNECTIONS, LOCATE OBSTRUCTIONS, AND ASSESS THE CONDITION OF THE PIPE.
2. CONTRACTOR SHALL ROUTE NEW SERVICE LATERALS TO NEW GRAVITY SEWER MAIN IN ACCORDANCE WITH 02538 SEWER SERVICE CONNECTIONS. EXISTING SERVICE CONNECTION PIPE SHALL BE REMOVED OR ABANDONED AS NECESSARY TO ALLOW FOR NEW SEWER INSTALLATION.
3. ABANDONMENT AND PLUGGING OF EXISTING PIPELINES SHALL INCLUDE THE FILLING OF EXISTING SEWERS WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM), INSTALLATION OF A TIGHT FITTING PLUG OR WALL OF CLASS 2 CONCRETE A MINIMUM OF TWO FEET THICK TO SECURELY CLOSE PIPELINE, EXCAVATION, BACKFILL, AND SURFACE RESTORATION. CLSM SHALL BE A FLOWABLE MATERIAL CONSISTING OF TYPE I OR TYPE II CEMENT IN ACCORDANCE WITH ASTM C150, ASTM C33 SIZE 7 AGGREGATE, CLASS F FLY ASH IN ACCORDANCE WITH ASTM C618, AND CLEAN, POTABLE WATER CONTAINING LESS THAN 500 PPM OF CHLORIDES.
4. PRIOR TO COMMENCING ANY ABANDONMENT ACTIVITIES, CONTRACTOR SHALL SUBMIT A PLAN FOR ABANDONMENT, DESCRIBING THE PROPOSED GROUTING SE□UENCING, GROUT MIX, WASTEWATER FLOW CONTROL RE□UIREMENTS, IF ANY, AND OTHER INFORMATION PERTINENT TO COMPLETION OF THE WORK.
5. FOR MANHOLES TO BE ABANDONED, DEMOLISH AND REMOVE MANHOLES FRAMES, COVERS AND OTHER PORTIONS OF THE STRUCTURE TO MINIMUM OF 4 FEET BELOW FINISHED GRADE.
6. DURING PLACEMENT OF FLOWABLE FILL, COMPENSATE FOR ANY IRREGULARITIES IN THE SEWER PIPE, SUCH AS OBSTRUCTIONS, OPEN JOINTS, OR BROKEN PIPE TO ENSURE NO VOIDS REMAIN UNFILLED.

KEYNOTES:

1. CONTRACTOR TO PERFORM INVESTIGATIVE WORK USING DYE TESTING IN ACCORDANCE WITH SPECIFICATION SECTION 01532F OR ANOTHER ENGINEER APPROVED METHOD TO DETERMINE THE TERMINATION OF EXISTING SERVICE LATERALS AND ENSURE CONTINUED SANITARY SEWER SERVICE TO RESIDENCES. IN THE EVENT THAT SANITARY SEWER SERVICE WOULD BE DISCONTINUED AS A RESULT OF THE WORK, CONTRACTOR SHALL INSTALL A RECEIVE A RESIDENTIAL LOT PUMPING SYSTEM ON THE AFFECTED PROPERTY. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING THE RESIDENTIAL LOT PUMP SYSTEM. THE LOCATION OF THE PUMP STATIONS AND ROUTING OF THE FORCEMAIN SHALL BE DETERMINED THROUGH AGREEMENT BETWEEN THE CONTRACTOR AND THE RESIDENTIAL HOME OWNER. THE CITY OF ATLANTA WILL BE RESPONSIBLE FOR THE EXECUTION OF A SERVICE AGREEMENT WITH EACH RESIDENTIAL HOME OWNER. THE INSTALLATION OF THE PUMP STATIONS SHALL BE BY LICENSED PLUMBER AND LICENSED ELECTRICIAN UNDER SUBCONTRACT WITH THE CONTRACTOR. THE PUMP STATIONS SHALL BE A SIMPLEX PUMP STATION MANUFACTURED BY EITHER LIBERTY PUMPS MODEL NO. 2484LSG OR ENVIRONMENT ONE CORPORATION MODEL NO. DH151.



0 20 40 60
SCALE IN FEET HORTIZONTAL

0 10 20 30
SCALE IN FEET VERTICAL

ch2m: ROH2DFOX

HM-C-007_676886.dwg

C-07

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE - STA 40+00 TO STA 44+00

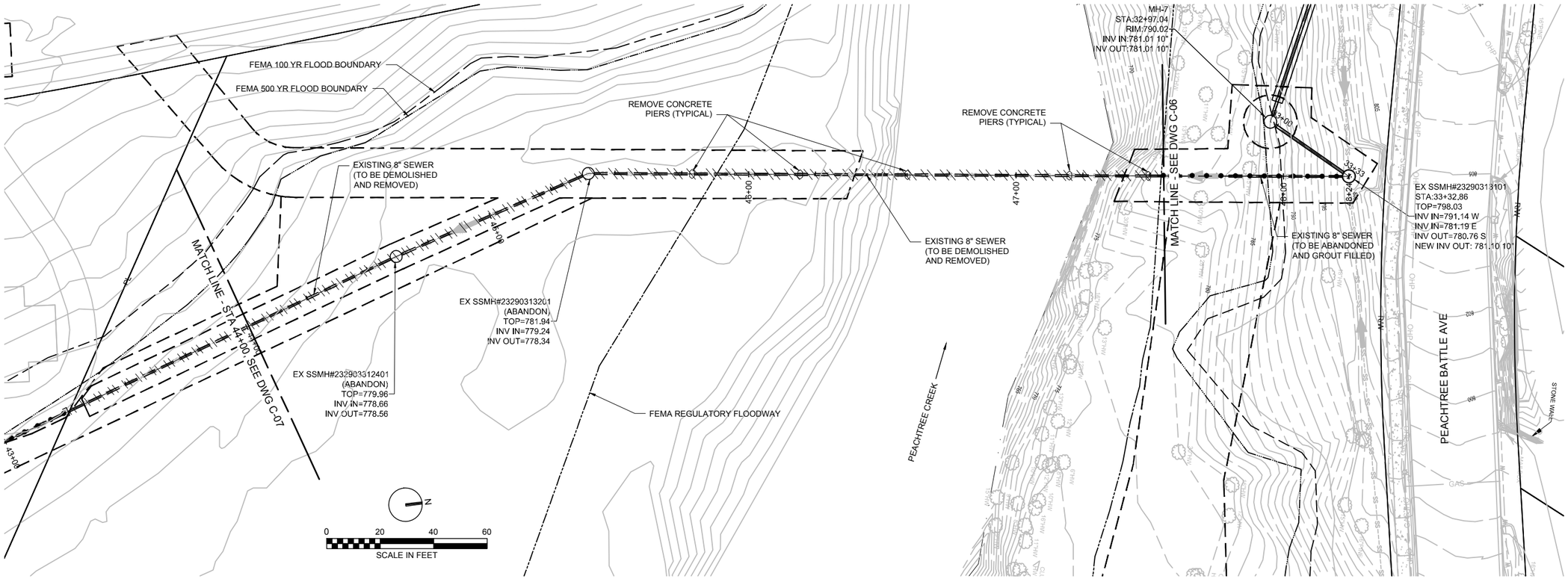
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

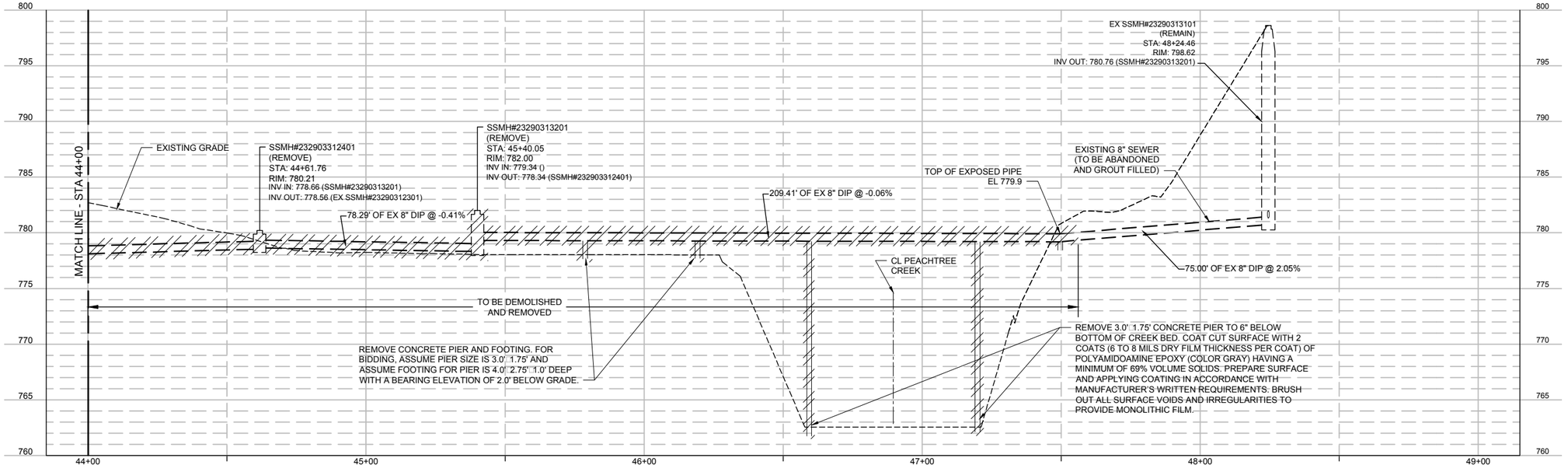
ENGINEER OF RECORD

PROJECT NUMBER:

SHEET 9 OF 29

100% REVIEW DOCUMENTS





NOTES:

1. PRIOR TO BEGINNING THE WORK, CONTRACTOR SHALL CONFIRM THE LOCATION OF EXISTING 8-INCH GRAVITY SEWER, ALL AFFECTED SERVICE LATERALS, AND EXISTING 8-INCH CONNECTION TO THE PEACHTREE CREEK TRUNK SEWER. CONTRACTOR SHALL ALSO CLEAN EXISTING 8-INCH SEWER LINE AND VIDEO WITH CLOSED CIRCUIT TELEVISION TO IDENTIFY CONNECTIONS, LOCATE OBSTRUCTIONS, AND ASSESS THE CONDITION OF THE PIPE.
2. CONNECTION OF NEW 8-INCH GRAVITY SEWER TO THE 96-INCH PEACHTREE CREEK TRUNK SEWER SHALL BE MADE USING INSERTA TEE® MANIFOLD ADAPTOR W/ SDR 35 PVC GASKETED BELL ENDS OR ENGINEER-APPROVED E□UAL.
3. ABANDONMENT AND PLUGGING OF EXISTING PIPELINES SHALL INCLUDE THE FILLING OF EXISTING SEWERS WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) AND INSTALLATION OF A TIGHT FITTING PLUG OR WALL OF CLASS 2 CONCRETE A MINIMUM OF TWO FEET THICK TO SECURELY CLOSE PIPELINE, INCLUDING EXCAVATION, BACKFILL, AND REPLACEMENT OF PAVEMENT SECTION AND/OR LANDSCAPING AS PRIOR TO WORK). CLSM SHALL BE INJECTED INTO THE PIPE, COMPLETELY FILLING SEGMENTS TO BE ABANDONED IN PLACE. CLSM SHALL BE A FLOWABLE MATERIAL CONSISTING OF TYPE I OR TYPE II CEMENT IN ACCORDANCE WITH ASTM C150, ASTM C33 SIZE 7 AGGREGATE, CLASS F FLY ASH IN ACCORDANCE WITH ASTM C618, AND CLEAN, POTABLE WATER CONTAINING LESS THAN 500 PPM OF CHLORIDES.
4. ABANDONMENT IN PLACE OF EXISTING SANITARY SEWERS AND MANHOLES SHALL BE ACCOMPLISHED USING FLOWABLE FILL. FLOWABLE FILL SHALL BE A CONTROLLED LOW-STRENGTH MATERIAL CONSISTING OF A FLUID MIXTURE OF CEMENT, FLY ASH, AGGREGATE, WATER AND WITH ADMIXTURE AS NECESSARY TO PROVIDE WORKABLE PROPERTIES.
5. PRIOR TO COMMENCING ANY ABANDONMENT ACTIVITIES, CONTRACTOR SHALL SUBMIT A PLAN FOR ABANDONMENT, DESCRIBING THE PROPOSED GROUTING SE□UENCING, GROUT MIX, WASTEWATER FLOW CONTROL RE□UIREMENTS, IF ANY, AND OTHER INFORMATION PERTINENT TO COMPLETION OF THE WORK.
6. FOR MANHOLES TO BE ABANDONED, DEMOLISH AND REMOVE MANHOLES FRAMES, COVERS AND OTHER PORTIONS OF THE STRUCTURE TO MINIMUM OF 4 FEET BELOW FINISHED GRADE.
7. DURING PLACEMENT OF FLOWABLE FILL, COMPENSATE FOR ANY IRREGULARITIES IN THE SEWER PIPE, SUCH AS OBSTRUCTIONS, OPEN JOINTS, OR BROKEN PIPE TO ENSURE NO VOIDS REMAIN UNFILLED.

CH2M | ROBINSON & FOX

HM-C-008_676886.dwg

C-08

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

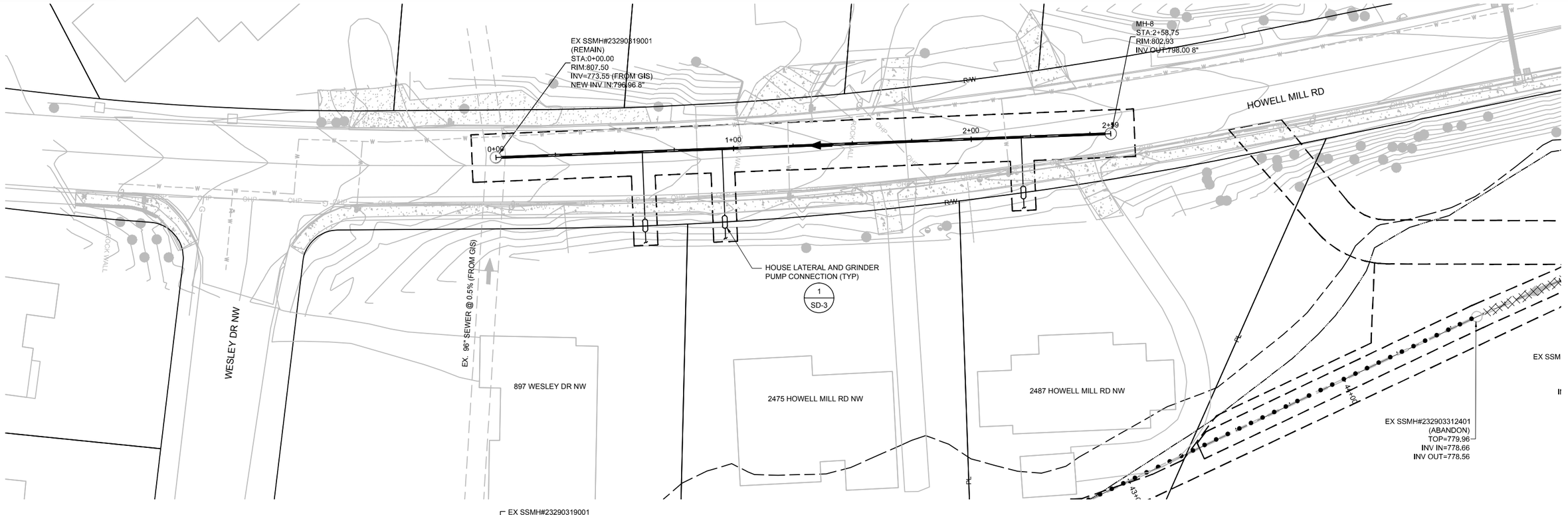
REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE - STA 44+00 TO STA 47+88

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: J BURTON	CHECKED BY: D JENKINS	APPROVED BY: T KELLEY	DATE: JUN 2017
ENGINEER OF RECORD	PROJECT NUMBER:		SHEET OF: 10 29	

100% REVIEW DOCUMENTS



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING RESIDENTIAL LOT PUMPING SYSTEMS TO PROVIDE SANITARY WASTEWATER SERVICES TO EACH RESIDENCE AS INDICATED ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF THE RESIDENTIAL SERVICE LATERALS FOR CONNECTION TO THE RESIDENTIAL LOT PUMPING SYSTEMS AND SHALL ROUTE THE FORCE MAIN GENERALLY AS SHOWN ON THE DRAWINGS. THE LOCATION OF THE PUMP STATIONS SHALL BE DETERMINED THROUGH AGREEMENT BETWEEN THE CONTRACTOR AND THE RESIDENTIAL HOME OWNER. THE CITY OF ATLANTA WILL BE RESPONSIBLE FOR THE EXECUTION OF A SERVICE AGREEMENT WITH EACH RESIDENTIAL HOME OWNER. THE INSTALLATION OF THE PUMP STATIONS SHALL BE BY LICENSED PLUMBER AND LICENSED ELECTRICIAN UNDER SUBCONTRACT WITH THE CONTRACTOR. THE PUMP STATIONS SHALL BE A SIMPLEX PUMP STATION MANUFACTURED BY EITHER LIBERTY PUMPS MODEL NO. EPS63779 OR ENVIRONMENT ONE CORPORATION MODEL NO. DH151.

CH2M | ROBERT AND DOUGLAS FOX A JOINT VENTURE

HM-C-009_676886.dwg

C-09

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
PLAN AND PROFILE - LOCAL SEWER

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET 11 OF 29

100% REVIEW DOCUMENTS

CERTIFICATIONS

DESIGN PROFESSIONAL

√ 11 1. I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION.

NAME: CHRISTOPHER S. HAMBLEN

GEORGIA REGISTERED ENGINEER NO: 038034

LEVEL II CERTIFIED DESIGN PROFESSIONAL NO: 0000069253

SIGNATURE: _____

PROJECT INFORMATION

√ 4 1. PRIMARY PERMITTEE:
NAME: REGINALD CRAYTON
COMPANY: CITY OF ATLANTA, DEPARTMENT OF WATERSHED MANAGEMENT
ADDRESS: 72 MARIETTA STREET NW
CITY/STATE/ZIP: ATLANTA, GA 30303
PHONE: (404) 798-5612

2. ENGINEER:
CH2M
6600 PEACHTREE DUNWOODY ROAD
400 EMBASSY ROW, SUITE 600
ATLANTA GA 30328

√ 3 3. 24-HR CONTACT: REGINALD CRAYTON, (404) 798-5612

√ 5 4. TOTAL PROJECT AREA: 1.75 ACRES
TOTAL DISTURBED AREA: 0.81 ACRES

√ 6 5. GPS LOCATIONS OF PROJECT(WGS84)
BEGINNING OF PROJECT: (33.823434, -84.422503)
END OF PROJECT: (33.8229344, -84.4158655)

√ 8 6. PROJECT DESCRIPTION
THE CONTRACT WILL COMPRISE THE REALIGNMENT OF AN EXISTING 8-INCH SEWER TO ELIMINATE AN EXISTING AERIAL CROSSING OF PEACHTREE CREEK. THE WORK SHOWN HEREIN INCLUDES, BUT IS NOT LIMITED TO, THE INSTALLATION OF APPROXIMATELY 1,516 LINEAR FEET OF 10-INCH GRAVITY SEWER BY TRENCHLESS METHODS, THE INSTALLATION OF APPROXIMATELY 558 LINEAR FEET OF 10-INCH GRAVITY SEWER BY PIPE BURSTING, THE DIRECT REPLACEMENT OF EXPOSED 8-INCH GRAVITY SEWER WITH 220 LINEAR FEET OF 10-INCH GRAVITY SEWER AT AN EXISTING AERIAL CROSSING OF PEACHTREE CREEK, THE DEMOLITION AND REMOVAL OF AN EXISTING AERIAL SEWER CROSSING AND ITS ANCILLARY COMPONENTS (APPROXIMATELY 465 LF), THE INSTALLATION OF APPROXIMATELY 260 LINEAR FEET OF NEW 8-INCH GRAVITY SEWER AND APPURTENANCES, AND THE ABANDONMENT OF APPROXIMATELY 325 LINEAR FEET OF 8-INCH GRAVITY SEWER.

√ 22 7. RECEIVING WATERS
√ 23
- THE RECEIVING WATERS OF THIS PROJECT IS PEACHTREE CREEK, WHICH IS A PART OF THE UPPER CHATTAHOOCHEE WATERSHED (HUC-03130001).
- PEACHTREE CREEK IS AN IMPAIRED STREAM SEGMENT AS DEFINED IN THE DRAFT 2016 GEORGIA EPD 305(B)/303(D) LIST DUE TO FECAL COLIFORM WATER □UALITY CRITERIA VIOLATIONS.
- A TMDL IMPLEMENTATION PLAN FOR SEDIMENT FOR THIS STREAM SEGMENT DOES NOT EXIST.

8. BASE FLOOD INFORMATION
100-YR FLOOD ELEVATION: PEACHTREE CREEK, 782' TO 786'
MAP NUMBER: 13121C0233F
PANEL NUMBER: 0233F
REVISED: SEPTEMBER 18, 2013

√ 46 9. SOILS TYPE
AS PER NRCS WEB SOIL SURVEY, SOIL TYPES FOR THIS PROJECT ARE DELINEATED ON SHEETS CE-02 THROUGH CE-06. SOIL TYPE LEGEND (WITH DESCRIPTIONS) IS PROVIDED ON SHEET CE-01.

√ 41 10. WETLANDS
THE PRESENCE OF ON-SITE WETLANDS HAS BEEN INVESTIGATED AND IT WAS DETERMINED THERE ARE NO WETLANDS WITHIN THE PROJECT AREA.

√ 41 11. STATE WATERS
STATE WATERS LOCATED ON AND WITHIN 200 FEET OF THE PROJECT SITE HAVE BEEN IDENTIFIED AND WILL BE PROTECTED BY ASSOCIATED STATE AND CITY PROTECTION REGULATIONS AND BUFFERS.

√ 44 12. RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOWS OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED SHALL STAY THE SAME. THE PROPOSED WORK DOES NOT ALTER THE HYDROLOGY OF THE SITE.

√ 48 13. WRITTEN JUSTIFICATION AGAINST SEDIMENT BASIN IMPLEMENTATION: THE TOPOGRAPHY OF THE SITE, AS WELL CONSTRUCTION TECHNI□UES, LIMITS THE LAND DISTURBANCE ACTIVITIES TO A NARROW AND NON-CONTINUOUS LINEAR AREAS. THIS ELIMINATES THE OPPORTUNITY TO USE A CENTRALIZED SEDIMENT STORAGE BMP TO ADE□UATELY TREAT SEDIMENT POLLUTION. TO MEET THE GOALS OF LIMITING SEDIMENT POLLUTION, THE SEDIMENT CONTROL PROGRAM WILL BE EXECUTED BY THE CONTRACTOR IN COORDINATION WITH LIMITING LAND DISTURBANCE AS SPECIFIED IN THIS PLAN SET AT ANY GIVEN TIME: BEFORE, DURING, AND AFTER CONSTRUCTION.

RE□UIRED ES□CP NOTES (CITY OF ATLANTA RE□UIRED NOTES INCLUDED AS SHOWN IN BOLD)

√ 15 1. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST AC□UIRING THE NECESSARY VARIANCES AND PERMITS.

√ 16 2. A BUFFER VARIANCE IS RE□UIRED FOR THIS PROJECT. ENCROACHMENT AREAS ARE SHOWN ON DRAWINGS CE-02, CE-04, AND CE-05. THESE AREAS ARE AT THE FARTHEST EASTERN AND WESTERN ENDS OF THE PROJECT WHERE CONSTRUCTION ACTIVITIES PRIMARILY INCLUDE REMOVAL AND DIRECT REPLACEMENT OF AERIAL SEWERS ON EXISTING PIERS. REMOVAL OF SEWERS SHALL ARE EXPECTED TO BE COMPLETED VIA CRANE WITH BOOM.

√ 25 3. SPILL CLEANUP AND CONTROL PRACTICES
3.1. LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE TO SITE PERSONNEL.
3.2. MATERIAL AND E□UIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND E□UIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
3.3. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS RE□UIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
3.4. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS RE□UIRED.

3.5. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF E□UIPMENT) OR IF ANY ONE PIECE OF E□UIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

√ 19 **4. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.**

√ 20 **5. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.**

√ 21 **6. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. ANY DISTURBED AREAS REMAINING IDLE FOR 30 DAYS SHALL BE STABILIZED WITH PERMANENT VEGETATION.**

7. PERIMETER EROSION AND SEDIMENT CONTROL DEVICES AND ORANGE BARRIER FENCE SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF SITE WORK AND REMAIN UNTIL COMPLETION OF WORK. CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE DAMAGED ITEMS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY, AFTER EACH RAIN, AND REPAIRED AS NECESSARY. ACCUMULATED SILT SHALL BE REMOVED AS SOON AS PRACTICAL, BUT NO LATER THAN WHEN FENCE IS HALF FULL.

8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON-SITE INSPECTION.

9. SILT FENCE SHALL MEET THE REQUIREMENTS OF SECTION 171 - TYPE C TEMPORARY SILT FENCE, OF THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 1993 EDITION, AND BE WIRE REINFORCED.

10. THE PROPERTY OWNER AND CONTRACTOR ARE EQUALLY RESPONSIBLE FOR ALL EROSION CONTROL ACTIVITIES.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES, NOT THE CITY OF ATLANTA.

12. ALL TEMPORARY AND PERMANENT SEEDING MUST BE PERFORMED AT THE APPROPRIATE SEASON. IN SUCH INSTANCES WHERE THE ESTABLISHMENT OF VEGETATION IS INOPPORTUNE DUE TO SEASON OR DROUGHT, DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED USING 2"-4" OF MULCH (DS1). ADDITIONAL PLANTINGS WILL BE NECESSARY IF A SUFFICIENT STAND OF GRASS FAILS TO GROW.

13. THE CITY'S DESIGNEE WILL VERIFY ADEQUATE COVER (100% COVER, 70% DENSITY) OF PERMANENT STABILIZATION (DS3, DS4).

14. SILT FENCES SHALL NOT BE PLACED IN STREAM BUFFER OR FLOODPLAINS, UNLESS UTILIZED FOR THE CONSTRUCTION OF AN EXEMPT ACTIVITY (I.E. ROADWAY DRAINAGE STRUCTURES, SEWER/WATER CROSSINGS, OR DRAINAGE STRUCTURES) PER THE APPROVED PLANS. FOR SUCH DISTURBANCES WITHIN THE BUFFER, THE AREA SHALL BE IMMEDIATELY STABILIZED USING EROSION CONTROL MATTING AND/OR BLANKETS ONCE THE ACTIVITY IS COMPLETE.

15. SUBCONTRACTORS INVOLVED WITH LAND DISTURBANCE ACTIVITIES SHALL MEET THE EDUCATION REQUIREMENTS (LEVEL 1) DESCRIBED IN O.C.G.A 12-7-19.

16. EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

17. SOIL DISTURBING ACTIVITIES WILL INCLUDE: PLACEMENT OF EROSION AND SEDIMENT CONTROL, DEMOLITION, SITE CLEARING AND GRUBBING, GRADING OPERATIONS, FACILITIES CONSTRUCTION, TRENCH EXCAVATION AND BACKFILL, AND SURFACE RESTORATION.

18. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES INSTALLED IN GOOD WORKING ORDER FOR THE FULL DURATION OF THIS CONTRACT.

19. EROSION, SEDIMENT AND POLLUTION CONTROL MEASURES SHALL BE PROVIDED AS SHOWN AND ARE THE MINIMUM RE□UIRED. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DETERMINED NECESSARY BY ON-SITE INSPECTION. ADDITIONAL DEVICES MAY BE RE□UIRED AS NECESSARY DURING CONSTRUCTION.

20. CONTRACTOR SHALL INSTALL AND ADD TO EROSION CONTROL MEASURES AS DETERMINED BY THE ENGINEER, OWNER OR THE CITY.

21. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE, AT A MINIMUM, IN CONFORMANCE WITH THE RE□UIREMENTS OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CURRENT EDITION. THIS DESIGN SHALL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THIS PUBLICATION.

22. CONSTRUCTION EXITS (Co) SHALL BE RE□UIRED AT ALL LOCATIONS USED FOR INGRESS/EGRESS FROM THE CONSTRUCTION AREA. CONSTRUCTION MATERIAL STORAGE AREAS WILL RE□UIRE THE INSTALLATION OF A CONSTRUCTION EXIT TO REDUCE OR ELIMINATE THE TRANSPORT OF MUD FROM THE AREA. SILT FENCE SHALL ALSO BE INSTALLED TO PREVENT SEDIMENT FROM LEAVING THE MATERIAL STORAGE AREA. AFTER DEMOBILIZATION, THE MATERIAL STORAGE AREA SHALL BE SEEDED AND MULCHED, AND THE SILT FENCE SHALL REMAIN UNTIL THE AREA IS PERMANENTLY STABILIZED.

23. CONSTRUCTION DEBRIS (INCLUDING CONCRETE WASHOUT) SHALL BE PROPERLY DISPOSED OF OFFSITE IN LICENSED LANDFILLS OR LOCATIONS THAT ARE APPROVED BY FEDERAL, STATE, AND LOCAL AUTHORITIES. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

24. NO BURN OR BURY PITS SHALL BE PERMITTED ON THE SITE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF THE SITE OWNER AND/OR THE ENGINEER OF RECORD.

25. A TEMPORARY COVER OF HEAVY MULCH OR MULCH WITH TEMPORARY SEEDING SHALL BE PLACED ON ALL AREAS WHERE PERMANENT COVER CAN NOT BE ESTABLISHED IMMEDIATELY DUE TO SEASONAL LIMITATIONS.

26. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT UNDER NO CIRCUMSTANCES ANY SEDIMENT, TRASH, OR DEBRIS BE ALLOWED ONTO ADJACENT PROPERTIES, PUBLIC LANDS, OR OUTSIDE OF THE CONSTRUCTION LIMITS.

27. ALL EROSION CONTROL DEVICES, THAT ARE NOT DIRECTLY SPECIFIED AS TO INSTALLATION AND MATERIALS, SHALL MEET THE RE□UIREMENTS OF THE GA. DEPT. OF TRANSPORTATION, SPECIFICATIONS FOR THE CONSTRUCTION OF ROADS AND BRIDGES, CURRENT EDITION, AND LATEST SUPPLEMENT IN EFFECT AT THE TIME OF BID OPENING OR THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CURRENT EDITION.

28. ACCEPTANCE AND/OR SUBSE□UENT ACCEPTANCE OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY COA OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS, JURISDICTIONAL WATERS OF THE STATE, AREAS OF THREATENED/ENDANGERED SPECIES, OR AREAS OF HISTORICAL SIGNIFICANCE. IT IS THE OWNER'S RESPONSIBILITY TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR ANY RE□UIRED APPROVALS.

29. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.

SOIL INFORMATION NOTES

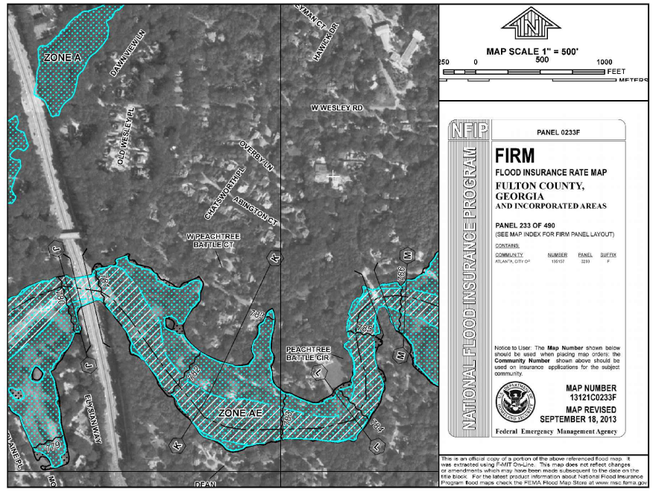
1. SOILS INFORMATION IS FROM THE USDA NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY. SPATIAL EXTENTS OF SOIL LAYERS ARE SHOWN ON SHEETS CE-02 THROUGH CE-05.
2. SOIL SERIES ARE GROUPINGS OF SIMILAR SOILS THAT WITH THE ALLOWABLE EXCEPTIONS FOR TEXTURE OF SURFACE LAYER OR THE UNDERLYING SUBSTRATUM, HAVE MAJOR HORIZONS THAT ARE SIMILAR IN COMPOSITION, THICKNESS, AND ARRANGEMENT IN THE PROFILE. THE SOIL PROFILE MAPPED IN THE SURVEY ONLY DESCRIBES THE HORIZONS UP TO A DEPTH OF 80-INCHES.

MAP UNIT SYMBOL	*MAP UNIT NAME*	*SLOPE (%)*
AgC	APPLING-HARD LABOR COMPLEX	6 – 10
CpA	CONGAREE SANDY LOAM, OCCASIONALLY FLOODED	0 – 2
Ub	URBAN LAND	N/A
UfC2	URBAN LAND-CECIL COMPLEX, MODERATELY ERODED	2 – 10
UrE	URBAN LAND-RION COMPLEX	10 – 25
W	WATER	N/A

√ 28 # ANTICIPATED CONSTRUCTION SCHEDULE

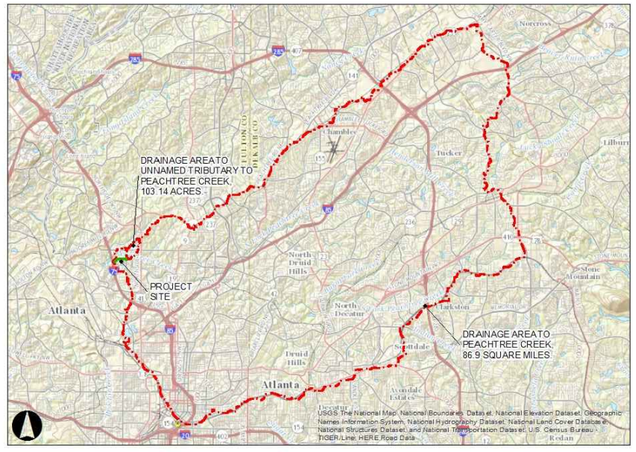
START: SEPTEMBER 2017
COMPLETION: FEBRUARY 2017

ACTIVITY	MONTH 1	2	3	4	5	6
INITIAL PHASE BMP'S	▬					
CLEARING □ GRUBBING	▬					
TEMPORARY VEGETATION		▬	▬	▬	▬	▬
INFRASTRUCTURE CONSTRUCTION (INCL. UTILITIES)	▬	▬	▬	▬		
FINE GRADING □ LANDSCAPING					▬	▬
REMOVE TEMP. EROSION CONTROL					▬	▬
MAINTENANCE OF BMP'S	▬	▬	▬	▬	▬	▬



FEMA FIRMETTE FLOOD INSURANCE MAP

NOTE: SCALE DEPICTED AS SHOWN DOES NOT REFLECT PRINTED SCALE.



√ 9 ## OFFSITE DRAINAGE AREA (USGS TOPO MAP)
√ 42 NOTE: DRAINAGE AREA DELINEATED USING USGS STREAMSTATS.
√ 43

GSWCC Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m: ROH&DFOX A JOINT VENTURE
676886
HM-CE-01_676886.dwg
CE-01

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

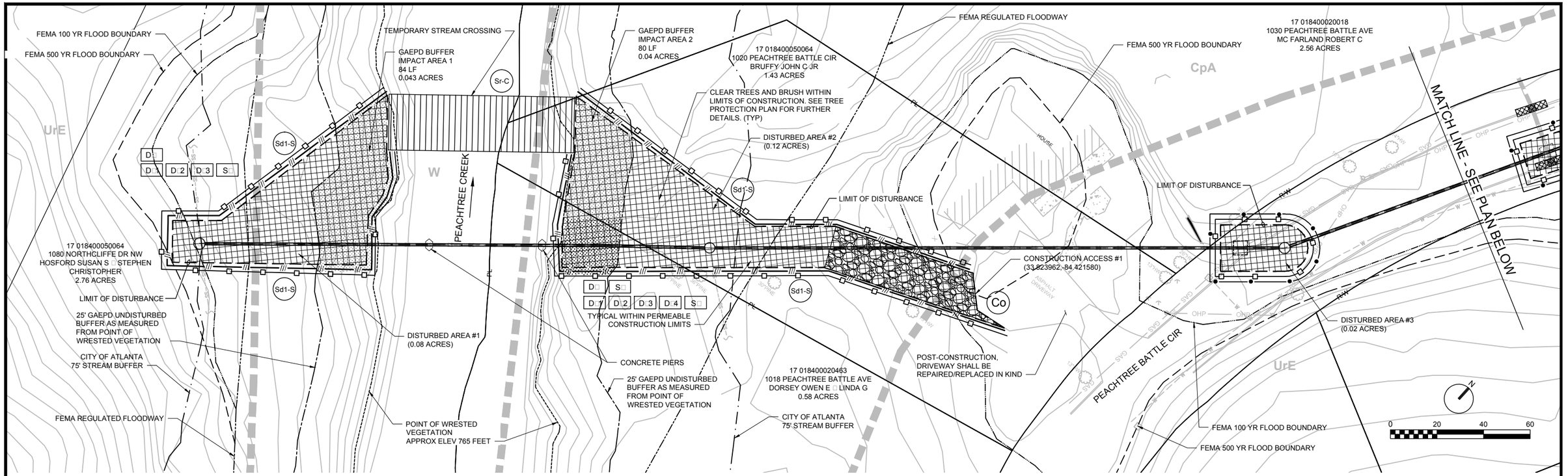
HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION CONTROL NOTES

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET 12 OF 29

100% REVIEW DOCUMENTS



NOTES:
1. COMPOST FILTER SOCK AND SILT FENCE LOCATION IS APPROXIMATE AND MAY BE ADJUSTED IN COORDINATION WITH ENGINEER. CONTRACTOR SHALL PROVIDE OPENINGS TO ACCESS WORK AS NECESSARY.

GSWCC Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m: ROHADFOX

HM-CE-02_676886.dwg

CE-02

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLANS

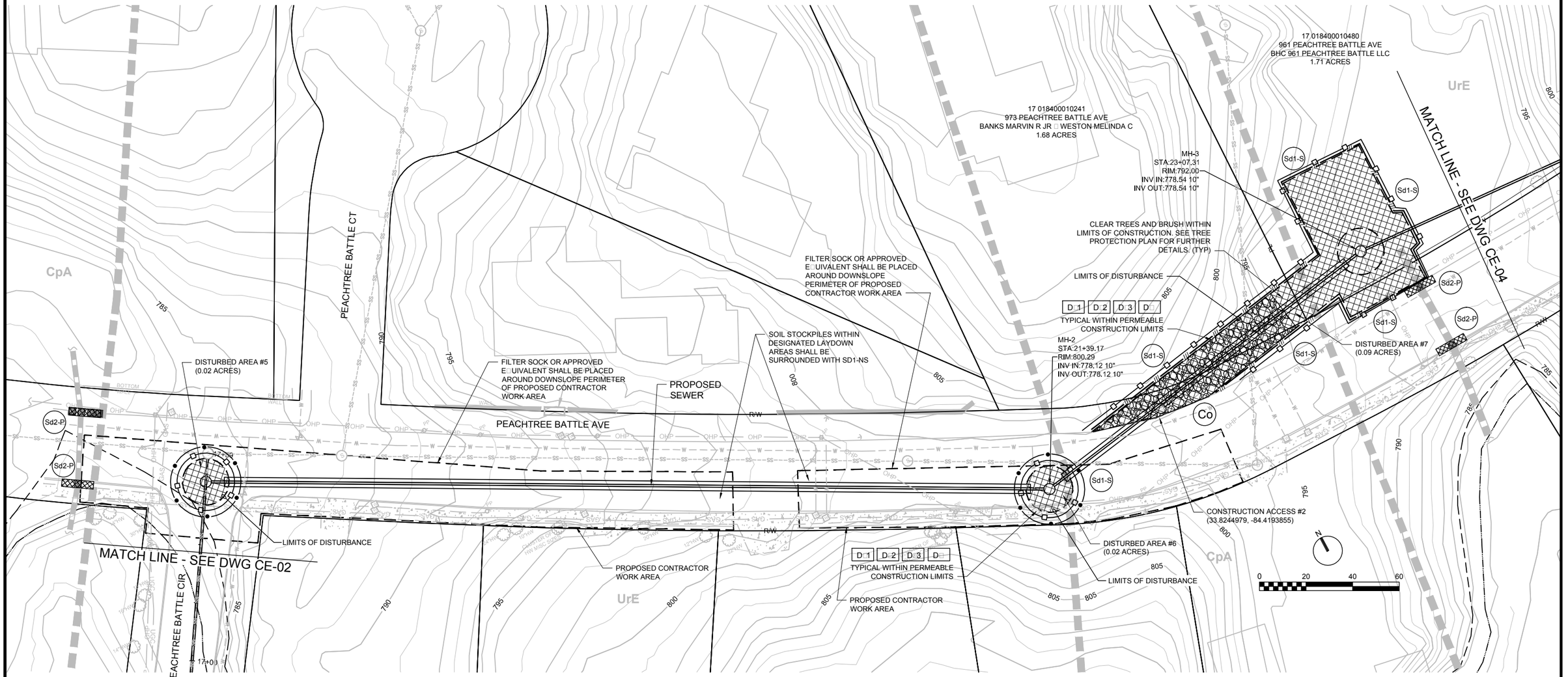
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY D CORBETT	DESIGNED BY T SMITH	CHECKED BY C HAMBLEN	APPROVED BY T KELLEY	DATE JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET OF 13 29

100% REVIEW DOCUMENTS



NOTES:
1. COMPOST FILTER SOCK AND SILT FENCE LOCATION IS APPROXIMATE AND MAY BE ADJUSTED IN COORDINATION WITH ENGINEER. CONTRACTOR SHALL PROVIDE OPENINGS TO ACCESS WORK AS NECESSARY.

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m: ROH&DFOX

HM-CE-03_676886.dwg

CE-03

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

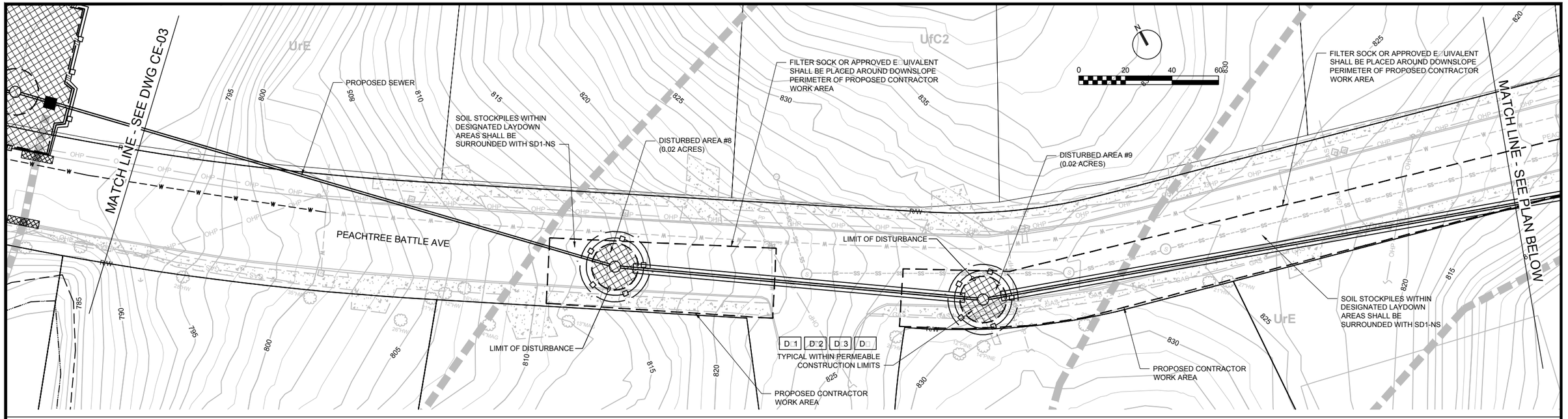
REVISIONS		
NO.	DATE	DESCRIPTION

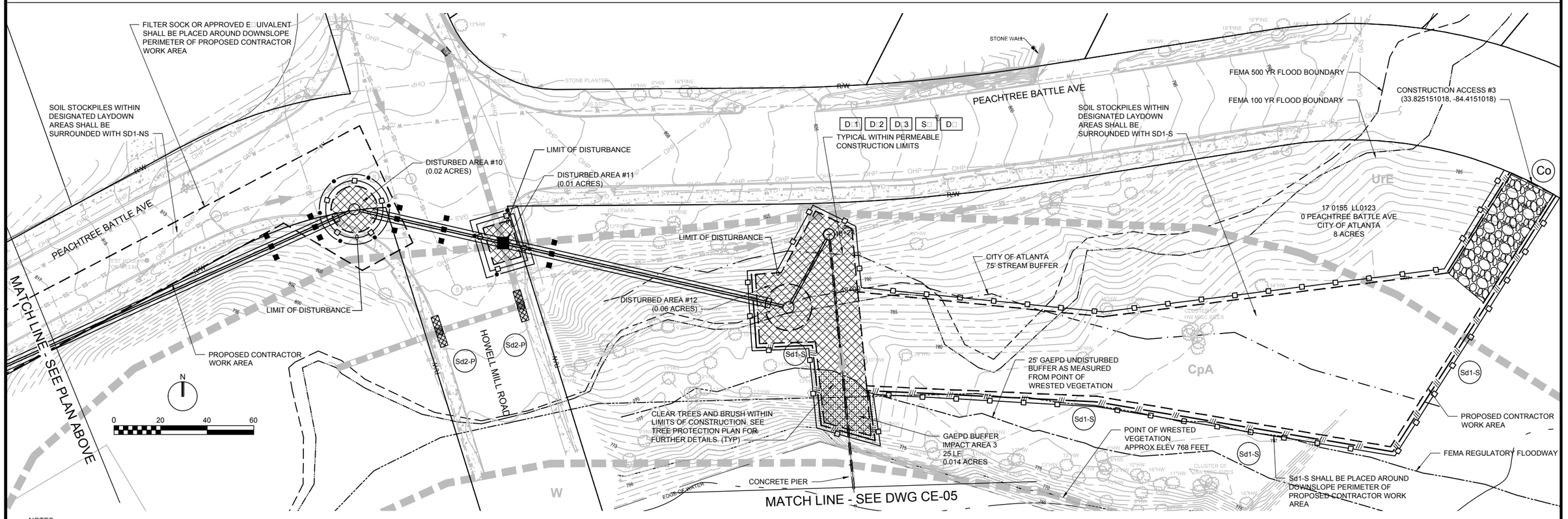
CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLANS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017
ENGINEER OF RECORD		PROJECT NUMBER:		SHEET OF 14 29

100% REVIEW DOCUMENTS





NOTES:
1. COMPOST FILTER SOCK AND SILT FENCE LOCATION IS APPROXIMATE AND MAY BE ADJUSTED IN COORDINATION WITH ENGINEER. CONTRACTOR SHALL PROVIDE OPENINGS TO ACCESS WORK AS NECESSARY.

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m | ROHADFOX

HM-CE-04_676886.dwg

CE-04

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLANS

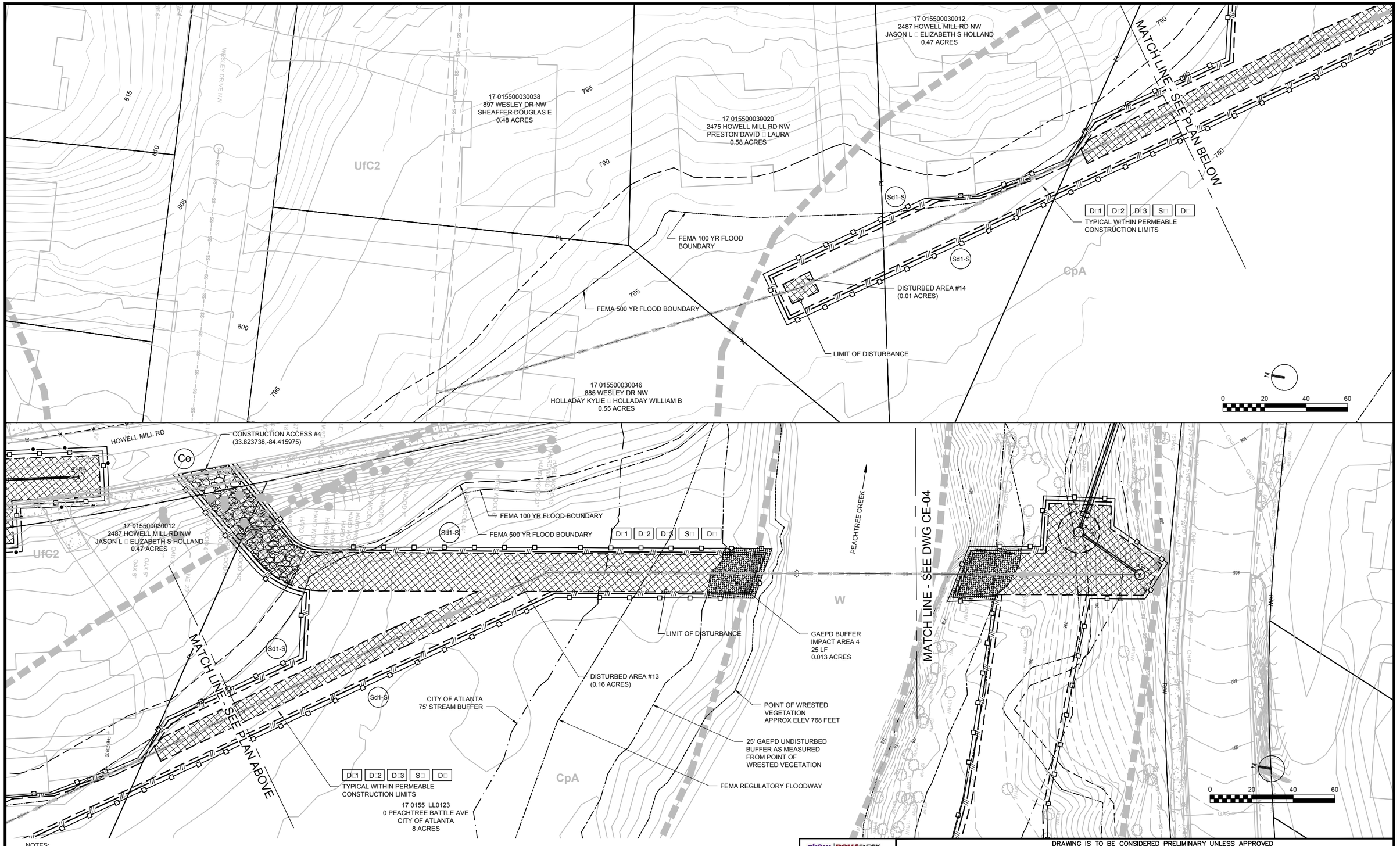
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET OF 15 29

100% REVIEW DOCUMENTS



NOTES:
1. COMPOST FILTER SOCK AND SILT FENCE LOCATION IS APPROXIMATE AND MAY BE ADJUSTED IN COORDINATION WITH ENGINEER. CONTRACTOR SHALL PROVIDE OPENINGS TO ACCESS WORK AS NECESSARY.

GSWCC Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

HM-CE-05_676886.dwg

CE-05

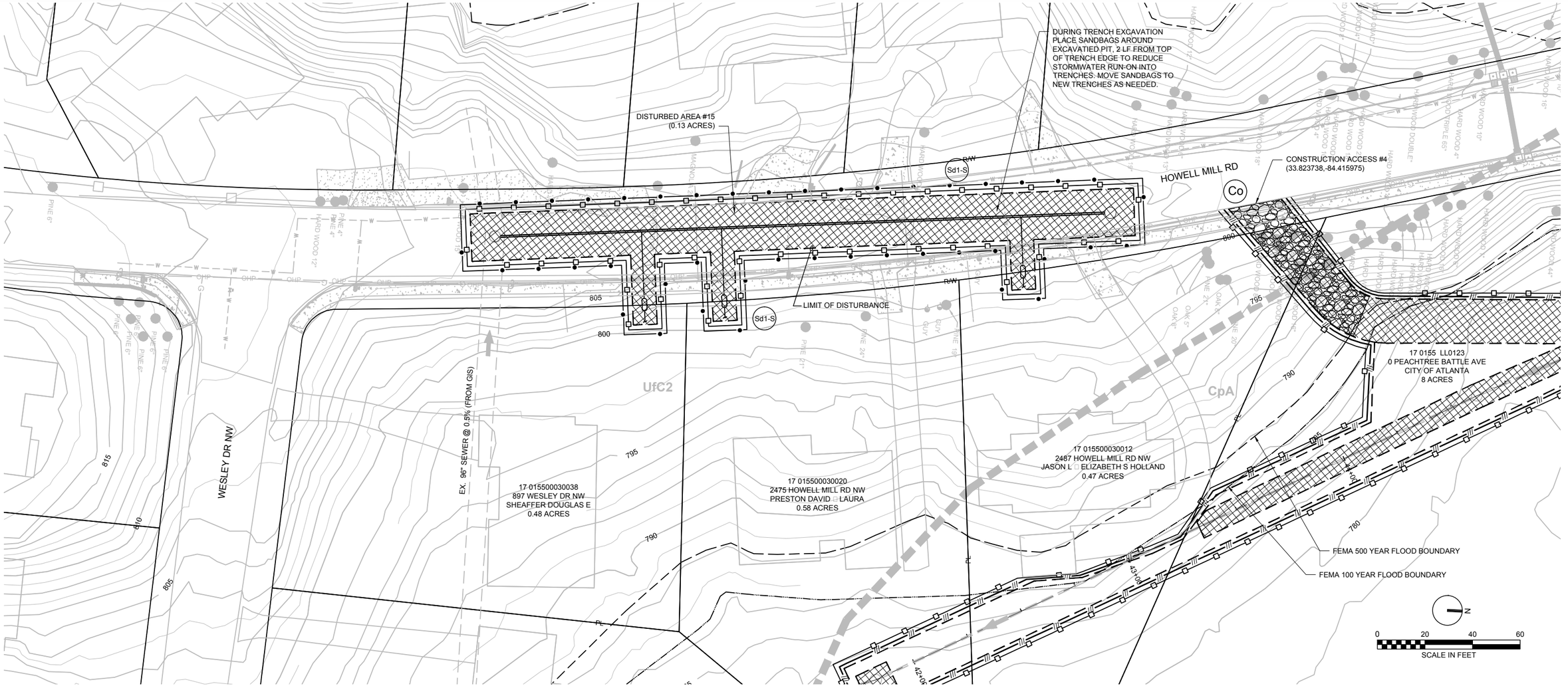
REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLANS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017
ENGINEER OF RECORD	PROJECT NUMBER:		SHEET OF: 16 29	

100% REVIEW DOCUMENTS



NOTES:
1. COMPOST FILTER SOCK AND SILT FENCE LOCATION IS APPROXIMATE AND MAY BE ADJUSTED IN COORDINATION WITH ENGINEER. CONTRACTOR SHALL PROVIDE OPENINGS TO ACCESS WORK AS NECESSARY.

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m: ROH&DFOX

HM-CE-06_676886.dwg

CE-06

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION AND SEDIMENT CONTROL PLANS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE

DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET OF 17 29

100% REVIEW DOCUMENTS

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
C□	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
D□	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
D□	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
D□1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
D□2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
G□	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
L□	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
R□	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
R□	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
S□	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
S□	SEEP BERM			Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
S□	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
S□	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
T□	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
T□	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
W□	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

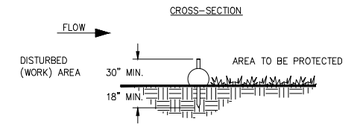
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
C□	COASTAL DUNE STABILIZATION (WITH VEGETATION)		C□	Planting vegetation on dunes that are denuded artificially constructed, or re-nourished.
D□1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		D□1	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
D□2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)		D□2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
D□3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		D□3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
D□4	DISTURBED AREA STABILIZATION (SODDING)		D□4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
D□	DUST CONTROL ON DISTURBED AREAS		D□	Controlling surface and air movement of dust on construction site, roadways and similar sites.
F-Co	FLOCCULANTS AND COAGULANTS		F-Co	Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
S□	STREAMBANK STABILIZATION (USING PERM VEGETATION)		S□	The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
S□	SLOPE STABILIZATION		S□	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
T□	TACKIFIERS AND BINDERS		T□	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

GaSWCC (Amended – 2013)

Sd1-NS EROSION AND SEDIMENT CONTROL

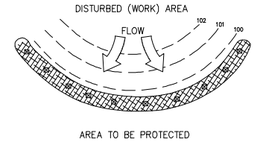
COMPOST FILTER SOCK

CROSS-SECTION



NOTE: FILTER SOCK SIZED TO SUIT CONDITIONS (SEE APPROVED LIST)

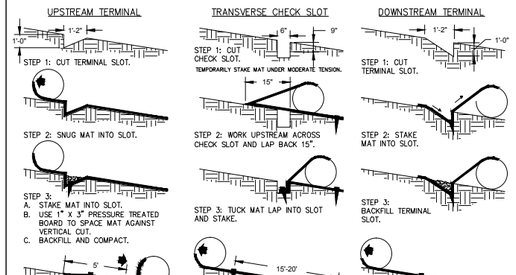
PLAN



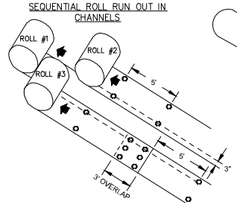
TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

S□

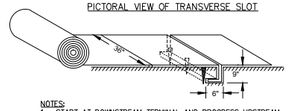
BLANKET AND MATTING CROSS-SECTIONS



SEQUENTIAL ROLL RUN OUT IN CHANNELS



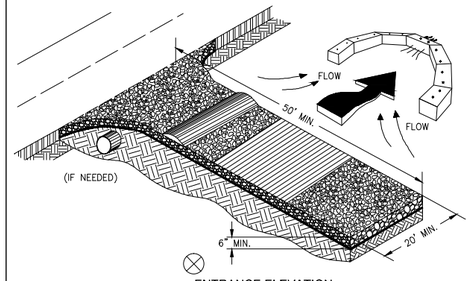
PICTORAL VIEW OF TRANSVERSE SLOT



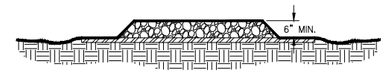
NOTES:
1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.

Co CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM



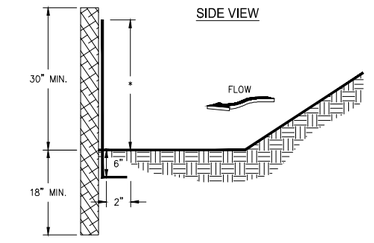
ENTRANCE ELEVATION



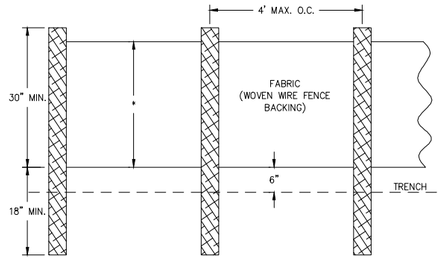
NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Sd1-S SILT FENCE - TYPE SENSITIVE

SIDE VIEW



FRONT VIEW



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

CH2M | ROH&DFOX
676886
HM-CE-07_676886.dwg
CE-07

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION CONTROL DETAILS

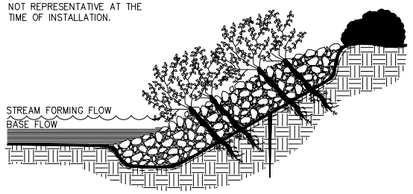
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017
PROJECT NUMBER:			SHEET 18 OF 29	

100% REVIEW DOCUMENTS

S□ STREAM STABILIZATION

JOINT PLANTING CROSS SECTION

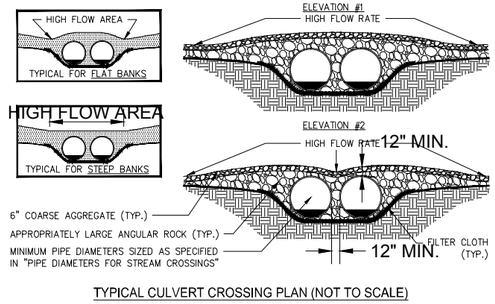
NOTES:
ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE AT THE TIME OF INSTALLATION.



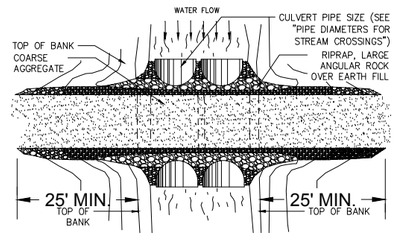
Sr-C TEMPORARY STREAM CROSSING

CONFIGURATION OF TEMPORARY CULVERT CROSSINGS

(SECTIONS – NOT TO SCALE)



TYPICAL CULVERT CROSSING PLAN (NOT TO SCALE)

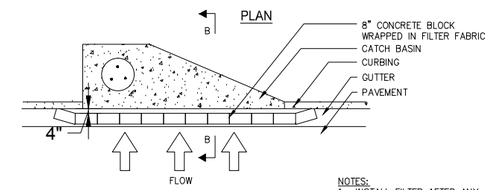


NOTES:
1. THIS TYPE OF CROSSING CAN BE INSTALLED IN BOTH A WET OR DRY WEATHER STREAM CONDITION WHERE THE DRAINAGE AREA EXCEEDS 10 ACRES.
2. REMOVE DURING CLEANUP.

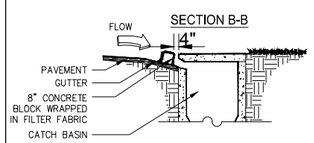
TEMPORARY VEGETATION COVER (Ds2)													
	BROADCAST RATES 2/ - PLS 3/		PLANTING DATES										
SPECIES	PER ACRE	PER 1000 SQ.FT.	J	F	M	A	M	J	J	A	S	O	N	D
LOVEGRASS, WEEPING *Eragrostis curvula*														
ALONE	4 LBS	0.1 LBS												
IN MIXTURES	2 LBS	0.05 LBS												
MILLET, BROWNTOP *Panicum fasciculatum*														
ALONE	40 LBS	0.9 LBS												
IN MIXTURES	10 LBS	0.2 LBS												
MILLET, PEARL *Pennesetum glaucum*														
ALONE	50 LBS	1.1 LBS												
RYEGRASS, ANNUAL *Lolium temulentum*														
ALONE	15 LBS	0.4 LBS												
WHEAT *Triticum aestivum*														
ALONE	180 LBS*	4.1 LBS												
IN MIXTURES	30 LBS**	0.7 LBS												

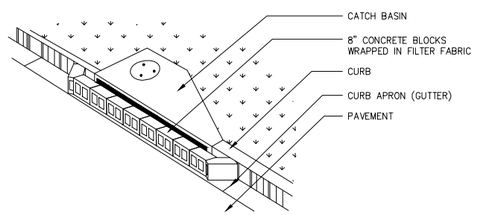
* 180 LBS (3 B.)
** 30 LBS (1/2 BU.)
1/ TEMPORARY COVER CROPS ARE VERY COMPETITIVE AND WILL CROWD OUT PERENNIALS IF SEEDED TOO HEAVILY
2/ REDUCE SEEDING RATES BY 50% WHEN DRILLED
3/ PLS IS AN ABBREVIATION FOR PURE LIVE SEED

Sd2-P CURB INLET FILTER "PIGS IN BLANKET"



NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

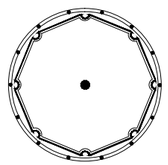




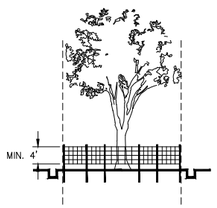
Tr TREE PROTECTION

"SNOW" FENCE

PLAN



CROSS–SECTION



NOTES:
1. USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"–5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER–REBAR IS NOT TO BE USED FOR STAKES).
3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
5. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

D□ DUST CONTROL ON DISTURBED AREAS

DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

CONDITIONS

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS

A. TEMPORARY METHODS
- MULCHES. SEE STANDARD DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD TB-TACKIFIERS AND BINDERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- VEGETATIVE COVER. SEE STANDARD DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).
- SPRAY-ON ADHESIVES. THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD TB-TACKIFIERS AND BINDERS.
- TILLAGE. THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF E□UIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION. THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.
- BARRIERS. SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.
- CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

B. PERMANENT METHODS
- PERMANENT VEGETATION: SEE STANDARD DS3 -DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
- TOPSOILING: THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD TP - TOPSOILING.
- STONE: COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD CR-CONSTRUCTION ROAD STABILIZATION.

GSWCC Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

CH2M | ROH&DFOX

676886
HM-CE-08_676886.dwg
CE-08

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION CONTROL DETAILS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET OF 19 29

100% REVIEW DOCUMENTS

D□1 DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

MULCHING RATE		
MATERIAL	RATE	DEPTH
STRAW	2.0 TON/ACRE	2" - 4"
HAY	2.5 TON/ACRE	2" - 4"
WOOD WASTE: CHIPS, SAWDUST, BARK	—	2" - 3"
POLYETHYLENE FILM	SECURE W/ SOIL AND ANCHORS	—

DEFINITION

APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

CONDITIONS

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE RE□UIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNI□UES SHALL BE EMPLOYED.

SPECIFICATIONS

MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF E□UIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS RE□UIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. CUTBACK ASPHALT (SLOW CURING) SHALL BE APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER S□.YD.).
4. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

APPLYING MULCH
WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICALE□UIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. CUTBACK ASPHALT SHALL BE APPLIED UNIFORMLY. CARE SHOULD BE TAKEN IN AREAS OF PEDESTRIAN TRAFFIC DUE TO PROBLEMS OF "TRACKING IN" OR DAMAGE TO SHOES, CLOTHING, ETC.
4. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE E□UIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKIFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB -TACKIFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

D□2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

DEFINITION

THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

CONDITIONS

TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED.

SPECIFICATIONS

GRADING AND SHAPING

EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS.

NO SHAPING OR GRADING IS RE□UIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING E□UIPMENT IS TO BE USED.

SEEDBED PREPARATION

WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT RE□UIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT RE□UIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.

WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

AGRICULTURAL LIME IS RE□UIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS RE□UIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT RE□UIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE E□UIVALENT PER ACRE (12-16 LBS./1,000 S□. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

SEEDING

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-□UARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND.

MULCHING

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSE□UENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

Georgia Soil & Water Conservation Commission
Manual for Erosion and Sediment Control in Georgia (amended 2014)
Table 6-4.1 - Plants, planting rates and planting dates for **TEMPORARY COVER** or **COMPANION CROPS**
Major Land Resource Area (MLRA): *Southern Piedmont* (P), per Figure 6-4.1

Species	Broadcast Rates: per acre (lbs.)	Broadcast Rates: per 1000 sq.ft. (lbs.)	Planting Dates* J	F	M	A	M	J	J	A	S	O	N	D	Remarks
Lovegrass, weeping (Eragrosits curvula)															
alone	4	0.1			-	X	X	-							1,500,000 seed per pound. May last for several years.
in mixtures	2	0.05													Mix with Sericea lespedeza.
Millet, browntop (Panicum fasciculatum)															137,000 seed per pound. Quick dense cover. Will
alone	40	0.9			-	X	X	-							provide too much competition in mixtures if seeded at
in mixtures	10	0.2													high rates.
Millet, pearl (Pennesetum glaucum)															
					-	X	X	X	-						88,000 seed per pound. Quick dense cover. May reach 5
alone	50	1.1													feet in height. Not recommended for mixtures.
Ryegrass, annual (Lolium temulentum)			-	-	-	-					-	X	X	X	227,000 seed per pound. Dense cover. Very competitive
alone	40	0.9													and is not used in mixtures.

* 'X' are optimum dates; '-' are permissible but marginal dates

D□3 DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)

DEFINITION

THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION..

CONDITIONS

PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDED AREAS.

SPECIFICATIONS

GRADING AND SHAPING
1. GRADING AND SHAPING MAY NOT BE RE□UIRED WHERE HYDRAULIC SEEDING AND FERTILIZING E□UIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.
2. WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT E□UIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION.
3. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

SEEDBED PREPARATION
- SEEDBED PREPARATION MAY NOT BE RE□UIRED WHERE HYDRAULIC SEEDING AND FERTILIZING E□UIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS
1. TILLAGE AT A MINIMUM, SHALL ADE□UATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES□ALLEVIATE COMPACTION□ INCORPORATE LIME AND FERTILIZER□SMOOTH AND FIRM THE SOIL□ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS□AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE E□UIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE E□UIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS
1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

PLANTING
1. HYDRAULIC SEEDING
   MIX THE SEED (INNOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.
2. CONVENTIONAL SEEDING
   SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE E□UIPMENT.
3. NO-TILL SEEDING
   NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADE□UATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO-TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING E□UIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.
4. INDIVIDUAL PLANTS
   SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOLE, TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

MULCHING
1. MULCH IS RE□UIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:
2. DRY STRAW OR DRY HAY OF GOOD □UALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
3. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRYSTRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
4. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER.
5. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
6. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT □UANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
7. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT RE□UIRED.
8. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
9. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH
1. STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING E□UIPMENT, OTHER SPREADING E□UIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE.
2. WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING E□UIPMENT.

ANCHORING MULCH
1. ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:
2. EMULSIFIED ASPHALT CAN BE (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER E□UIPMENT.
3. THE COMBINATION OF ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF GRADE SS-1H OR CSS-1H EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH.
4. CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT STATE WATERS, THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS, AND ALL OTHER STRUCTURES FROM ASPHALT DISCOLORATION.
5. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK"" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.
6. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY GDOT SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO TB - TACKIFIERS AND BINDERS.
7. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-□UARTER TO ONE HALF BUSHEL PER ACRE.
8. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

IRRIGATION
- IRRIGATION SHALL BE APPLIED AT A RATE THAT WILL NOT CAUSE RUNOFF.

Lime Application for PERMANENT COVER - DS3
Agricultural lime is required at the rate of **one to two tons per acre** unless soil tests indicate otherwise.

Georgia Soil & Water Conservation Commission
Manual for Erosion and Sediment Control in Georgia (amended 2000)
Table 6-5.2 - Plants, planting rates and planting dates for **PERMANENT COVER**
Major Land Resource Area (MLRA): *Southern Piedmont* (P), per Figure 6-4.1

Species	Broadcast Rates: per acre (lbs.)	Broadcast Rates: per 1000 sq.ft. (lbs.)	Planting Dates* J	F	M	A	M	J	J	A	S	O	N	D	Remarks
Bermuda, common (Cynodon dactylon) - **Hulled**															
alone	10	0.2				-	X	X	-						1,787,000 see per pound. Quick cover. Low growing and sod forming. Full sun. Good
with other perennials	6	0.1													for athletic fields
Bermuda, common (Cynodon dactylon) - **Unhulled**															
alone	10	0.2	X	X								X	X	X	Plant with winter annuals
with other perennials	6	0.1													Plant with Tall fescue.
Fescue, tall (Festuca arundinacea)															227,000 seed per pound. Use alone only on better sites. Not for droughty soils. Mix
alone	50	1.1									-	X	X		with perennial lespedeza or Crownvetch. Apply topdressing in spring following fall
with other perennials	30	0.7													plantings. Not for heavy use areas or athletic fields.
Lovegrass, weeping (Eragrostis curvula)															
alone	4	0.1				-	X	X	-						1,500,000 seed per pound. May last for several years. Grows well with Sericea
in mixtures	2	0.05													lespedeza on road banks.

* 'X' are optimum dates; '-' are permissible but marginal dates

GSWCC — Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m | ROHADFOX
676886
HM-CE-09_676886.dwg
CE-09

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

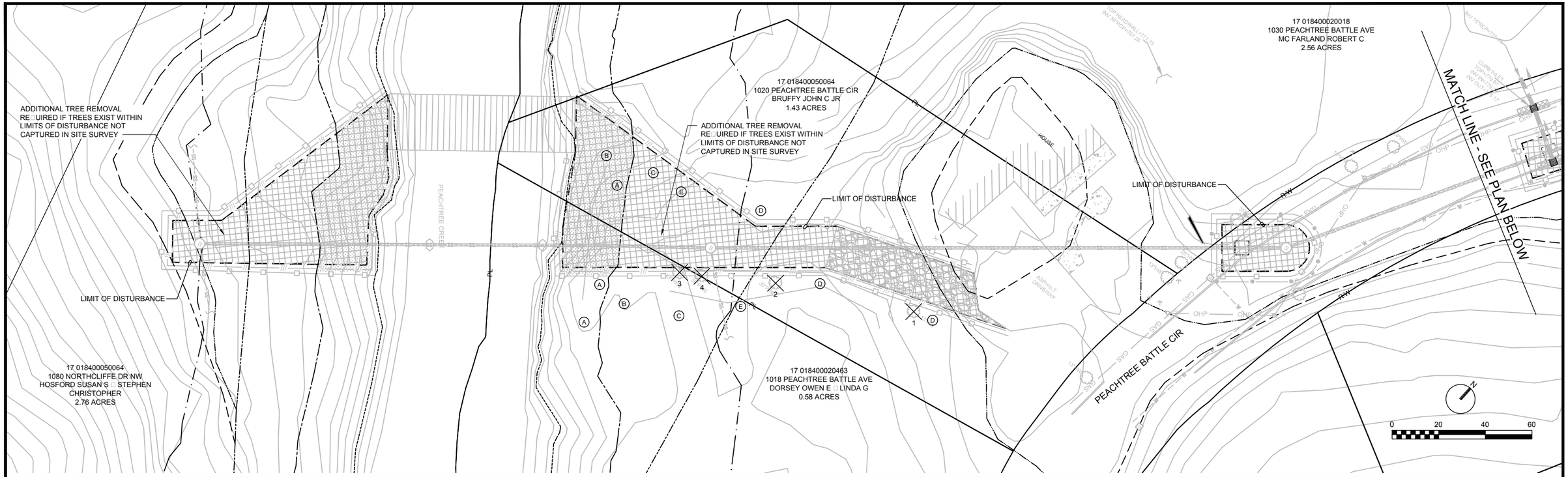
REVISIONS NO.	DATE	DESCRIPTION

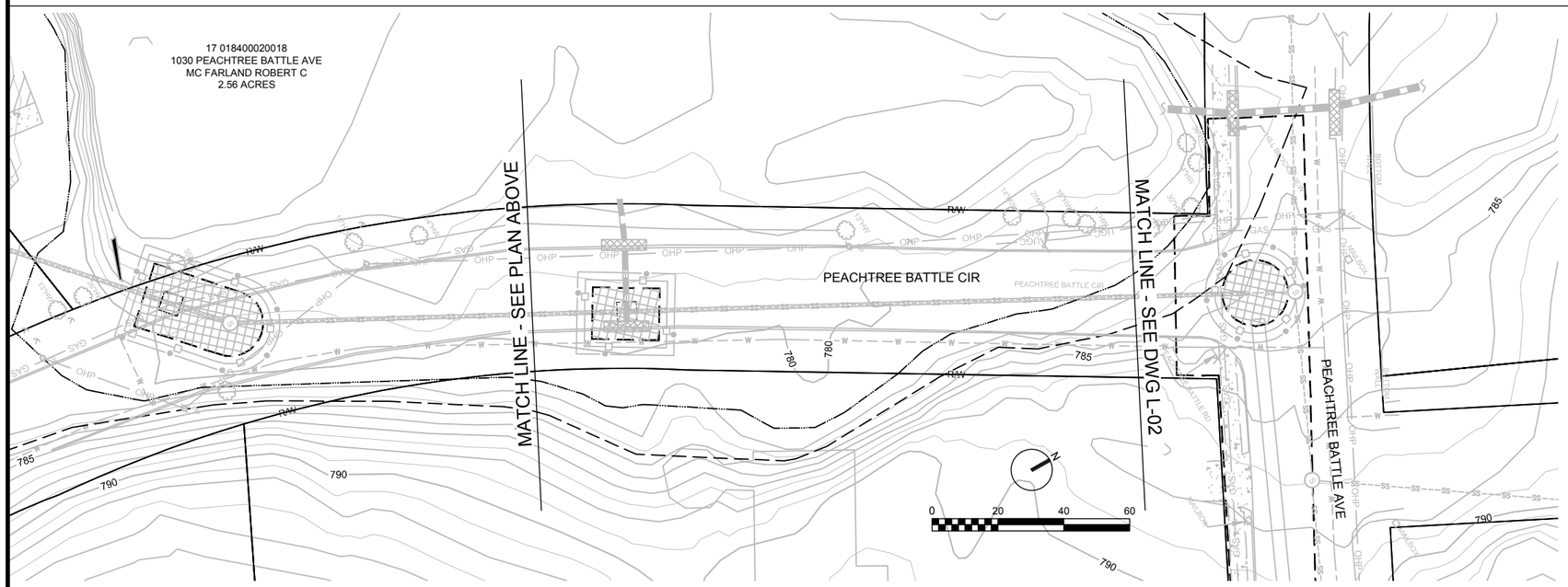
CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
EROSION CONTROL DETAILS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017
ENGINEER OF RECORD	PROJECT NUMBER:		SHEET OF	20 29

100% REVIEW DOCUMENTS





NOTES:

1. ALL SURVEY FOR THIS PROJECT, INCLUDING TREE LOCATION, WAS PROVIDED BY CITY OF ATLANTA.
2. IT IS ANTICIPATED THAT ALL TREES INSIDE THE LIMITS OF DISTURBANCE WILL BE REMOVED AS PART OF NORMAL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONSERVE TREES INSIDE THE LIMITS OF DISTURBANCE IF POSSIBLE. TREES ANTICIPATED FOR REMOVAL ARE LISTED IN THE TREE REMOVAL TABLE.
3. CONTRACTOR SHALL INSTALL 4-FT ORANGE TREE PROTECTION FENCE OUTSIDE OF THE SILT FENCE ALONG THE ENTIRE LENGTH OF THE LIMITS OF CLEARING.
4. CONTRACTOR SHALL PROVIDE AND INSTALL REPLACEMENT TREES SHOWN ON THE REPLACEMENT TREE PLANTING SCHEDULE, AND SHALL PLANT TREES ACCORDING TO THE TREE PLANTING DETAIL. REPLACEMENT TREES SHALL BE PLANTED AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES.
5. LOCATION OF REPLACEMENT TREES SHALL GENERALLY BE AS SHOWN ON THIS PLAN. FINAL LOCATION OF REPLACEMENT TREES MAY BE ADJUSTED IN THE FIELD BY THE OWNER TO MATCH FIELD CONDITIONS AND TREE SPACING RE□UIREMENTS. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO PLANTING REPLACEMENT TREES TO OBTAIN OWNER INPUT.
6. REPLACEMENT TREES SHALL BE PLANTED APPROXIMATELY 20 FEET FROM THE GRAVITY SEWER LINE AND SHALL NOT BE PLANTED CLOSER THAN 20 FEET OF THE GRAVITY SEWER LINE.
7. **TREES SHALL BE PLANTED IN ACCORDANCE WITH THE (1) STANDARD CONSTRUCTION DETAILS AND (2) PLANTING SCHEDULE PROVIDED ON SHEET L-06.**
8. **TREES SHALL BE REMOVED IN ACCORDANCE WITH THE TREE REMOVAL TABLE PROVIDED ON SHEET L-06.**

GSWCC
Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m: ROH&DFOX

HM-L-01_676886.dwg

L-01

811 Know what's **below.** **Call** before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

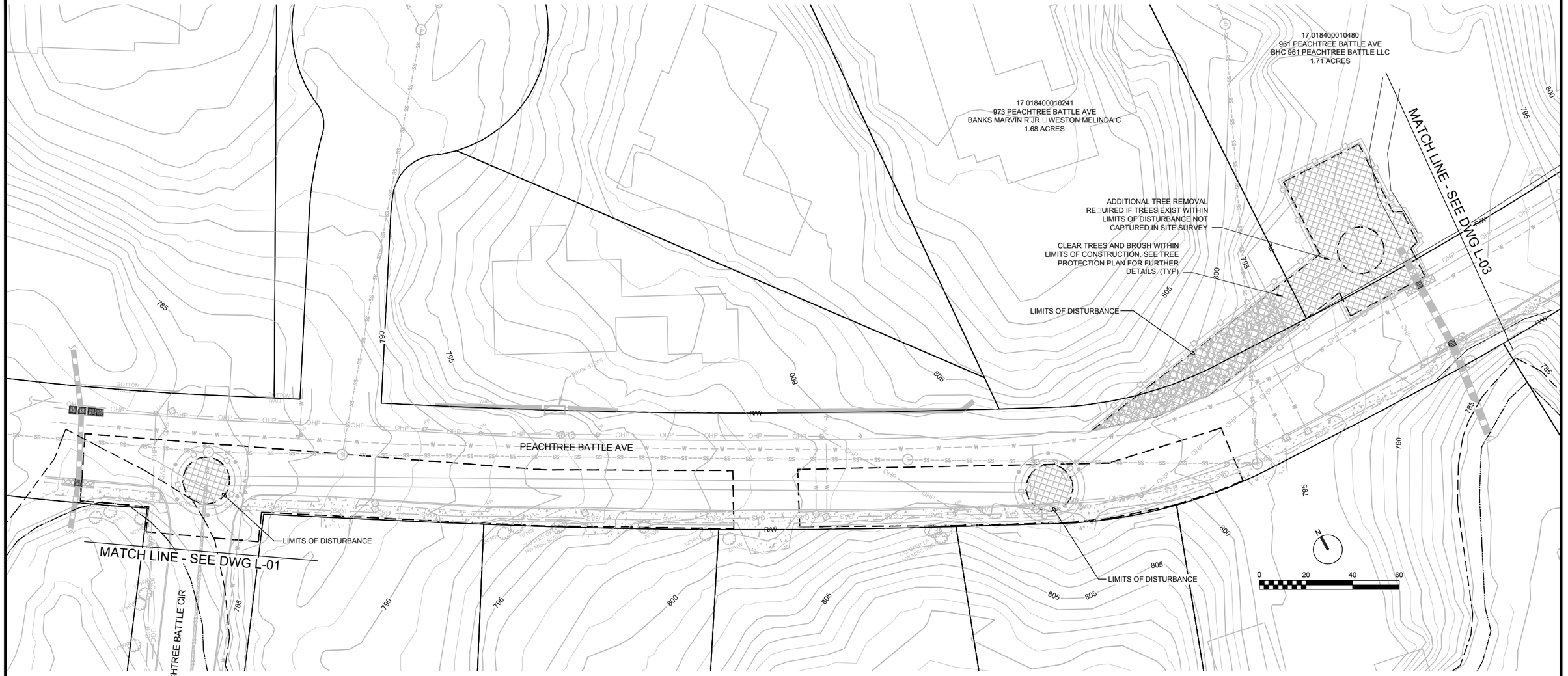
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET OF 21 29

100% REVIEW DOCUMENTS



NOTES:

1. ALL SURVEY FOR THIS PROJECT, INCLUDING TREE LOCATION, WAS PROVIDED BY CITY OF ATLANTA.
2. IT IS ANTICIPATED THAT ALL TREES INSIDE THE LIMITS OF DISTURBANCE WILL BE REMOVED AS PART OF NORMAL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONSERVE TREES INSIDE THE LIMITS OF DISTURBANCE IF POSSIBLE. TREES ANTICIPATED FOR REMOVAL ARE LISTED IN THE TREE REMOVAL TABLE.
3. CONTRACTOR SHALL INSTALL 4-FT ORANGE TREE PROTECTION FENCE OUTSIDE OF THE SILT FENCE ALONG THE ENTIRE LENGTH OF THE LIMITS OF CLEARING.
4. CONTRACTOR SHALL PROVIDE AND INSTALL REPLACEMENT TREES SHOWN ON THE REPLACEMENT TREE PLANTING SCHEDULE, AND SHALL PLANT TREES ACCORDING TO THE TREE PLANTING DETAIL. REPLACEMENT TREES SHALL BE PLANTED AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES.
5. LOCATION OF REPLACEMENT TREES SHALL GENERALLY BE AS SHOWN ON THIS PLAN. FINAL LOCATION OF REPLACEMENT TREES MAY BE ADJUSTED IN THE FIELD BY THE OWNER TO MATCH FIELD CONDITIONS AND TREE SPACING RE□UIREMENTS. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO PLANTING REPLACEMENT TREES TO OBTAIN OWNER INPUT.
6. REPLACEMENT TREES SHALL BE PLANTED APPROXIMATELY 20 FEET FROM THE GRAVITY SEWER LINE AND SHALL NOT BE PLANTED CLOSER THAN 20 FEET OF THE GRAVITY SEWER LINE.
7. **TREES SHALL BE PLANTED IN ACCORDANCE WITH THE (1) STANDARD CONSTRUCTION DETAILS AND (2) PLANTING SCHEDULE PROVIDED ON SHEET L-06.**
8. **TREES SHALL BE REMOVED IN ACCORDANCE WITH THE TREE REMOVAL TABLE PROVIDED ON SHEET L-06.**

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m | ROHE&FOX
HM-L-02_676886.dwg
L-02

811
Know what's **below.** **Call** before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	**DESIGNED BY**	**CHECKED BY**	**APPROVED BY**	**DATE**
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017
ENGINEER OF RECORD			PROJECT NUMBER:	SHEET OF 22 29

100% REVIEW DOCUMENTS

NOTES:

1. ALL SURVEY FOR THIS PROJECT, INCLUDING TREE LOCATION, WAS PROVIDED BY CITY OF ATLANTA.
2. IT IS ANTICIPATED THAT ALL TREES INSIDE THE LIMITS OF DISTURBANCE WILL BE REMOVED AS PART OF NORMAL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONSERVE TREES INSIDE THE LIMITS OF DISTURBANCE IF POSSIBLE. TREES ANTICIPATED FOR REMOVAL ARE LISTED IN THE TREE REMOVAL TABLE.
3. CONTRACTOR SHALL INSTALL 4-FT ORANGE TREE PROTECTION FENCE OUTSIDE OF THE SILT FENCE ALONG THE ENTIRE LENGTH OF THE LIMITS OF CLEARING.
4. CONTRACTOR SHALL PROVIDE AND INSTALL REPLACEMENT TREES SHOWN ON THE REPLACEMENT TREE PLANTING SCHEDULE, AND SHALL PLANT TREES ACCORDING TO THE TREE PLANTING DETAIL. REPLACEMENT TREES SHALL BE PLANTED AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES.
5. LOCATION OF REPLACEMENT TREES SHALL GENERALLY BE AS SHOWN ON THIS PLAN. FINAL LOCATION OF REPLACEMENT TREES MAY BE ADJUSTED IN THE FIELD BY THE OWNER TO MATCH FIELD CONDITIONS AND TREE SPACING RE UIREMENTS. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO PLANTING REPLACEMENT TREES TO OBTAIN OWNER INPUT.
6. REPLACEMENT TREES SHALL BE PLANTED APPROXIMATELY 20 FEET FROM THE GRAVITY SEWER LINE AND SHALL NOT BE PLANTED CLOSER THAN 20 FEET OF THE GRAVITY SEWER LINE.
7. **TREES SHALL BE PLANTED IN ACCORDANCE WITH THE (1) STANDARD CONSTRUCTION DETAILS AND (2) PLANTING SCHEDULE PROVIDED ON SHEET L-06.**
8. **TREES SHALL BE REMOVED IN ACCORDANCE WITH THE TREE REMOVAL TABLE PROVIDED ON SHEET L-06.**

GSWCC
Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

CH2M | ROBERT AND COMPANY | FOX

HM-L-03_676886.dwg

L-03

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

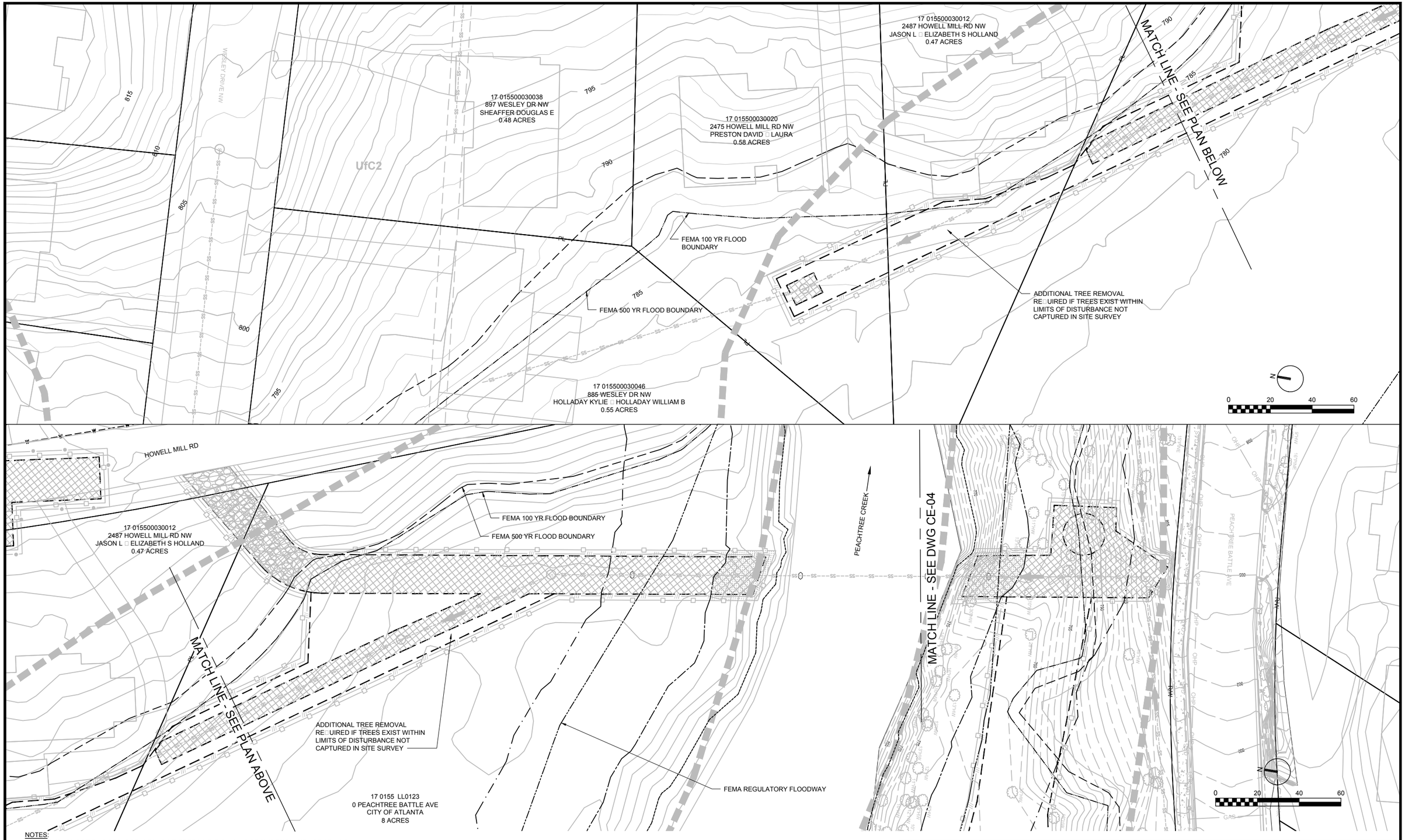
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

SHEET OF 23 29

100% REVIEW DOCUMENTS



NOTES:

1. ALL SURVEY FOR THIS PROJECT, INCLUDING TREE LOCATION, WAS PROVIDED BY CITY OF ATLANTA.
2. IT IS ANTICIPATED THAT ALL TREES INSIDE THE LIMITS OF DISTURBANCE WILL BE REMOVED AS PART OF NORMAL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONSERVE TREES INSIDE THE LIMITS OF DISTURBANCE IF POSSIBLE. TREES ANTICIPATED FOR REMOVAL ARE LISTED IN THE TREE REMOVAL TABLE.
3. CONTRACTOR SHALL INSTALL 4-FT ORANGE TREE PROTECTION FENCE OUTSIDE OF THE SILT FENCE ALONG THE ENTIRE LENGTH OF THE LIMITS OF CLEARING.
4. CONTRACTOR SHALL PROVIDE AND INSTALL REPLACEMENT TREES SHOWN ON THE REPLACEMENT TREE PLANTING SCHEDULE, AND SHALL PLANT TREES ACCORDING TO THE TREE PLANTING DETAIL. REPLACEMENT TREES SHALL BE PLANTED AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES.
5. LOCATION OF REPLACEMENT TREES SHALL GENERALLY BE AS SHOWN ON THIS PLAN. FINAL LOCATION OF REPLACEMENT TREES MAY BE ADJUSTED IN THE FIELD BY THE OWNER TO MATCH FIELD CONDITIONS AND TREE SPACING RE□UIREMENTS. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO PLANTING REPLACEMENT TREES TO OBTAIN OWNER INPUT.
6. REPLACEMENT TREES SHALL BE PLANTED APPROXIMATELY 20 FEET FROM THE GRAVITY SEWER LINE AND SHALL NOT BE PLANTED CLOSER THAN 20 FEET OF THE GRAVITY SEWER LINE.
7. **TREES SHALL BE PLANTED IN ACCORDANCE WITH THE (1) STANDARD CONSTRUCTION DETAILS AND (2) PLANTING SCHEDULE PROVIDED ON SHEET L-06.**
8. **TREES SHALL BE REMOVED IN ACCORDANCE WITH THE TREE REMOVAL TABLE PROVIDED ON SHEET L-06.**

GSWCC
Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

ch2m | ROHE&FOX

HM-L-04_676886.dwg

L-04

811
Know what's **below.**
Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS		
NO.	DATE	DESCRIPTION

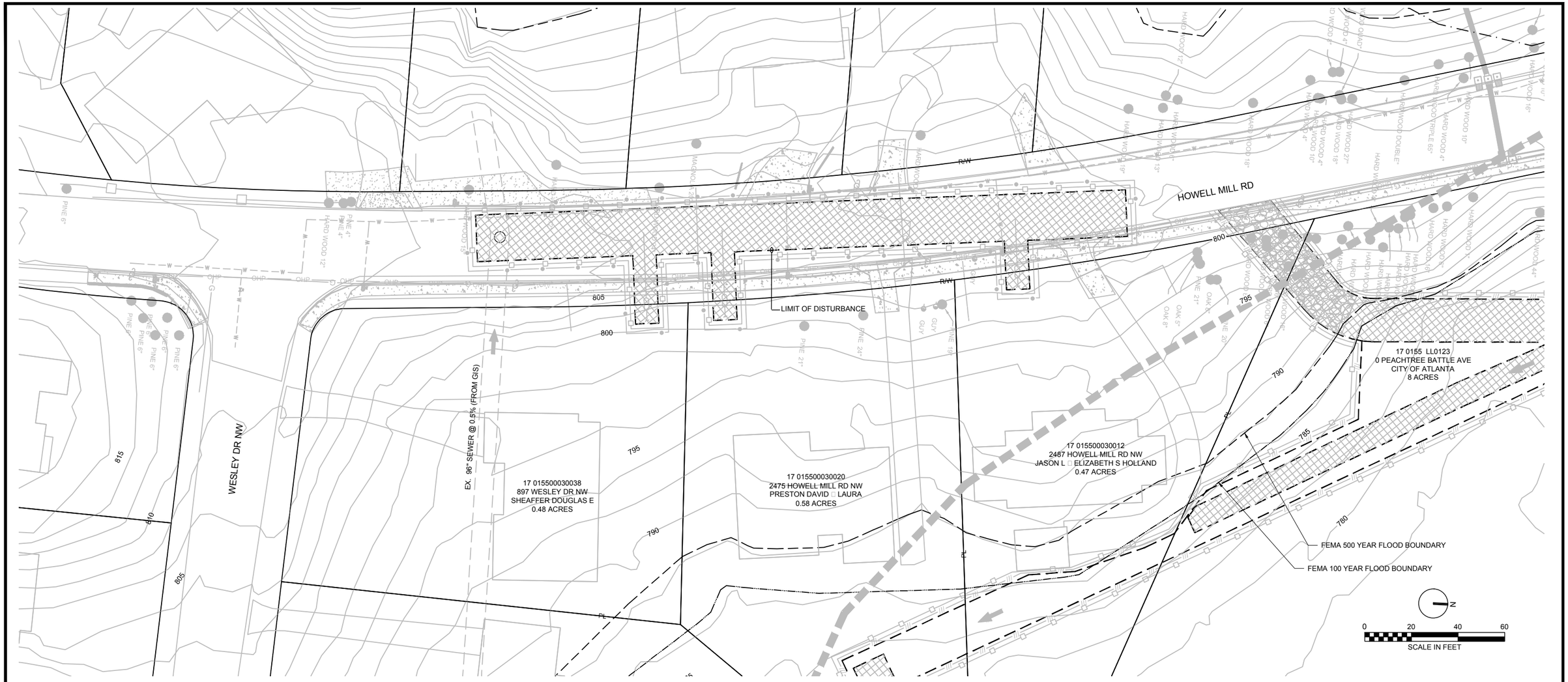
ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY	**DESIGNED BY**	**CHECKED BY**	**APPROVED BY**	**DATE**
D CORBETT	T SMITH	C HAMBLEN	T KELLEY	JUN 2017
PROJECT NUMBER:			**SHEET OF**	24 29

100% REVIEW DOCUMENTS



NOTES:

1. ALL SURVEY FOR THIS PROJECT, INCLUDING TREE LOCATION, WAS PROVIDED BY CITY OF ATLANTA.
2. IT IS ANTICIPATED THAT ALL TREES INSIDE THE LIMITS OF DISTURBANCE WILL BE REMOVED AS PART OF NORMAL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONSERVE TREES INSIDE THE LIMITS OF DISTURBANCE IF POSSIBLE. TREES ANTICIPATED FOR REMOVAL ARE LISTED IN THE TREE REMOVAL TABLE.
3. CONTRACTOR SHALL INSTALL 4-FT ORANGE TREE PROTECTION FENCE OUTSIDE OF THE SILT FENCE ALONG THE ENTIRE LENGTH OF THE LIMITS OF CLEARING.
4. CONTRACTOR SHALL PROVIDE AND INSTALL REPLACEMENT TREES SHOWN ON THE REPLACEMENT TREE PLANTING SCHEDULE, AND SHALL PLANT TREES ACCORDING TO THE TREE PLANTING DETAIL. REPLACEMENT TREES SHALL BE PLANTED AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES.
5. LOCATION OF REPLACEMENT TREES SHALL GENERALLY BE AS SHOWN ON THIS PLAN. FINAL LOCATION OF REPLACEMENT TREES MAY BE ADJUSTED IN THE FIELD BY THE OWNER TO MATCH FIELD CONDITIONS AND TREE SPACING RE UIREMENTS. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO PLANTING REPLACEMENT TREES TO OBTAIN OWNER INPUT.
6. REPLACEMENT TREES SHALL BE PLANTED APPROXIMATELY 20 FEET FROM THE GRAVITY SEWER LINE AND SHALL NOT BE PLANTED CLOSER THAN 20 FEET OF THE GRAVITY SEWER LINE.
7. **TREES SHALL BE PLANTED IN ACCORDANCE WITH THE (1) STANDARD CONSTRUCTION DETAILS AND (2) PLANTING SCHEDULE PROVIDED ON SHEET L-06.**
8. **TREES SHALL BE REMOVED IN ACCORDANCE WITH THE TREE REMOVAL TABLE PROVIDED ON SHEET L-06.**

GSWCC
Georgia Soil and Water Conservation Commission

Christopher Hamblen
Level II Certified Design Professional

Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

CH2M | ROBERT AND DOUGLAS FOX A JOINT VENTURE

HM-L-05_676886.dwg

L-05

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

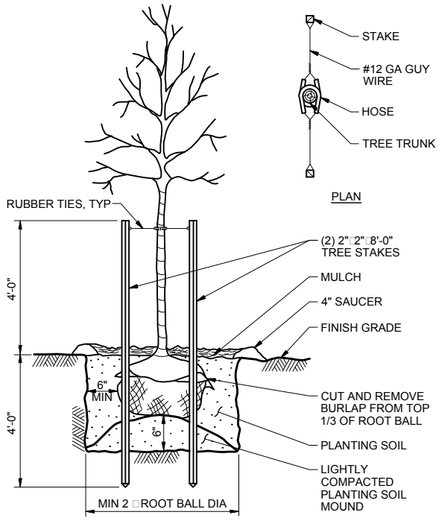
REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017
ENGINEER OF RECORD		PROJECT NUMBER:		SHEET 25 OF 29

100% REVIEW DOCUMENTS

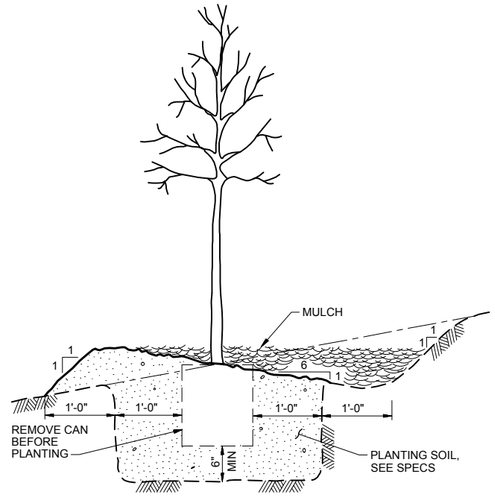


NOTE:

TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS GRADE.

SMALL TREE PLANTING

NTS



TREE PLANTING ON SLOPE

NTS

TREE REMOVAL TABLE*

TREE NUMBER	*APPROXIMATE NORTHING*	*APPROXIMATE EASTING*	*DESCRIPTION*
1	1391080.76	2219142.33	13" HW
2	1391052.95	2219088.61	30" PINE
3	1391030.30	2219053.76	13" PINE
4	1391035.37	2219062.09	36" PINE
5	1391438.06	2220877.86	10" HW"
6	1391410.32	2220884.11	30" HW
7	1391423.26	2220861.13	10" HW
8	1391433.08	2220853.97	13" HW
9	1391442.02	2220853.23	7" HW
10	1391455.94	2220857.48	15" HW
11	1391455.13	2220865.10	15" HW
12	1391440.46	2220897.08	28" HW
13	1391439.21	2220973.17	30" HW
14	1391460.31	2220995.00	12" HW
15	1391451.59	2221020.13	12" HW
16	1391450.75	2221018.57	7" HW
17	1391449.28	2221018.68	12" HW
18	1391451.68	2221026.37	17" HW
19	1391448.63	2221022.35	14" HW
20	1391445.67	2221022.95	10" HW
21	1391443.26	2221022.43	12" HW

*Table does not include tree removal in areas with incomplete survey, as indicated in the plan set.

Howell Mill Road Sewer Improvements
Replacement Tree Planting Schedule

Tree Plan Symbol	Common Name	Scientific Name	Minimum Size Required, in.	Quantity Required
(A)	American Sycamore	*Platanus occidentalis*	2	5
(B)	Water Oak	*Quercus nigra*	2	5
(C)	River Birch	*Betula nigra*	2	5
(D)	Red Maple	*Acer rubrum*	2	5
(E)	American Linden	*Tilia americana*	2	5

Total No. of Trees Replaced: 25
Total Caliper Inches Replaced: 50.00

Howell Mill Road Sewer Improvements Infrastructure Recompense	
Disturbed Acreage	0.69
Recompense per Disturbed Acre	$5,000
Recompense Cost	$3,450
Recompense Credit	
No. of Trees Replaced	25
Credit per Tree Replaced	$100
Caliper Inches Replaced	50.00
Credit per Caliper Inch Replaced	$30
Total Recompense Credit	$4,000
Total Recompense Cost:	$0

GSWCC
Georgia Soil and Water Conservation Commission
Christopher Hamblen
Level II Certified Design Professional
Certification Number: 0000069253 Expires: 08-21-2019
Issued: 08-21-2015

CH2M | ROH&DFOX
HM-L-06_676886.dwg
L-06

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS

NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
TREE PROTECTION, REMOVAL AND REPLACEMENT

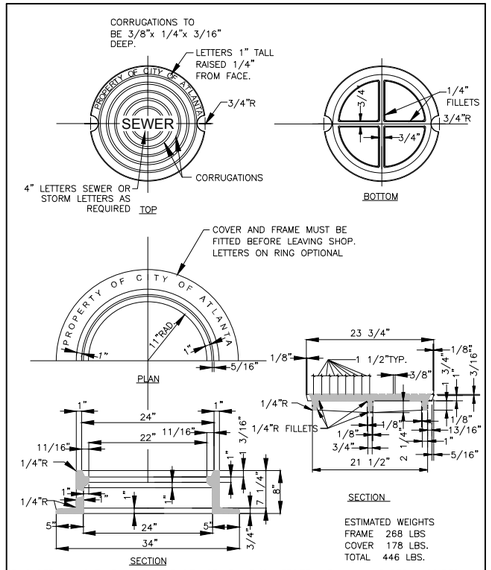
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
DRAWN BY: D CORBETT	DESIGNED BY: T SMITH	CHECKED BY: C HAMBLEN	APPROVED BY: T KELLEY	DATE: JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

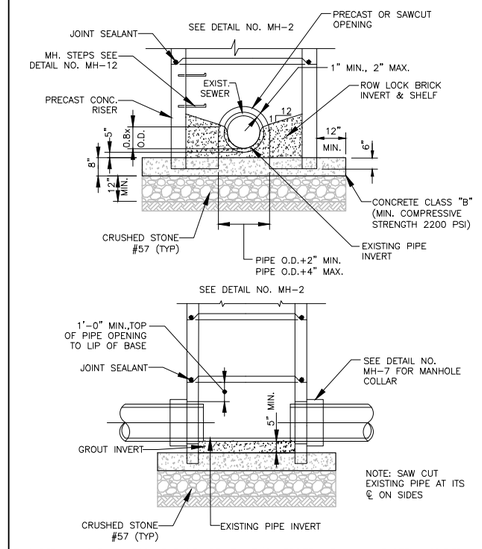
SHEET OF 26 29

100% REVIEW DOCUMENTS



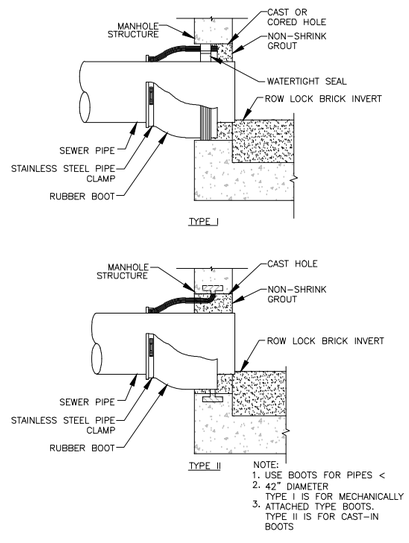
THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	SOLID FRAME AND COVER	DETAIL NO. SG-G_FC002



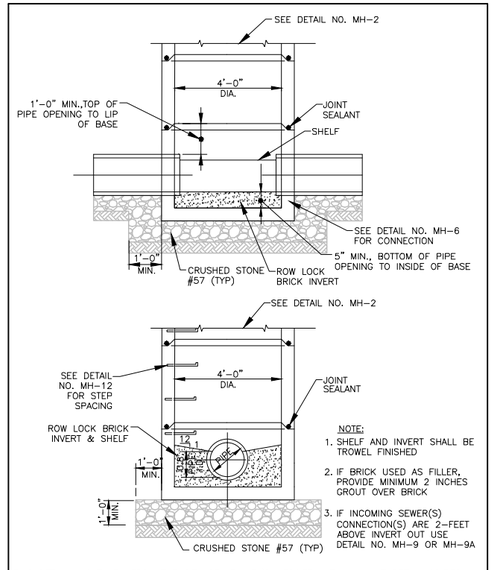
THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	MANHOLE OVER EXISTING SEWER	DETAIL NO. SG-G_MH007



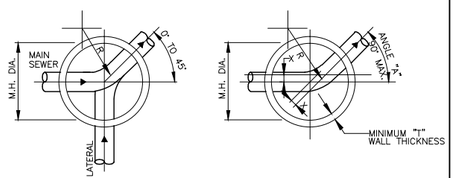
THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	BOOT CONNECTION	DETAIL NO. SS-G_BC001



THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	MANHOLE BASE	DETAIL NO. SS-G_MH001

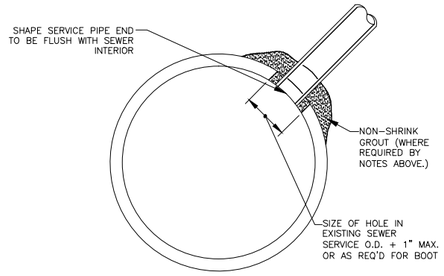


STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS				
PIPE SIZE	ANGLE "A"	MH. DIA.	"I"	"X"
8" TO 15"	0° TO 90°	4'-0"	5"	0"
18" TO 24"	0° TO 60°	4'-0"	5"	0"
18" TO 24"	60° TO 90°	5'-0"	6"	6"
27" TO 30"	0° TO 30°	5'-0"	6"	0"
27" TO 30"	30° TO 60°	5'-0"	6"	6"
27" TO 30"	60° TO 90°	6'-0"	7"	8"
36"	0° TO 90°	6'-0"	7"	0"
42"	0° TO 60°	7'-0"	8"	8"
42"	60° TO 90°	8'-0"	9"	6"
48"	0° TO 45°	8'-0"	9"	6"
48"	60° TO 90°	12'-0"	13"	6"
54"	0° TO 60°	8'-0"	9"	6"
54"	60° TO 90°	12'-0"	13"	6"
60"	0° TO 30°	8'-0"	9"	0"
60"	30° TO 45°	8'-0"	9"	6"
60"	45° TO 60°	10'-0"	11"	6"
60"	60° TO 90°	12'-0"	13"	8"

NOTE:
MINIMUM ℄ RADIUS (R) OF M.H. INVERT = 1.5 x PIPE DIAMETER

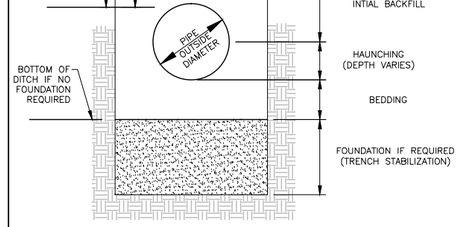
City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: JAN 1997 SCALE: N.T.S.
	MANHOLE PLAN AND DIAMETERS	DETAIL NO. SS-G_MH009

NOTE: 1.) HOLE IN EXISTING SEWER SHALL BE CORED.
2.) CONNECT SERVICE TO SEWER WITH:
- BOOT ON RCP SEWERS
- TAPPING SADDLE ON DIP SEWERS EQUAL TO AMERICAN OUTLET / TAPPING SADDLE WITH MECHANICAL JOINT OUTLET AND MINIMUM 3 STRAPS FOR SECURING
- TIGHTLY PACKED NON-SHRINK GROUT ON BRICK SEWERS
- BOOT OR TIGHTLY PACKED NON-SHRINK GROUT ON VCP SEWERS
- MANUFACTURED SADDLE ON PVC PIPE SEWERS



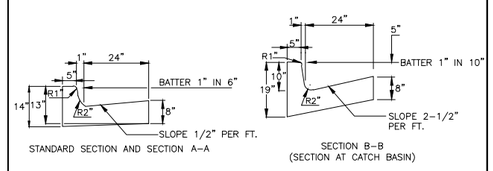
THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	SERVICE CONNECTION	DETAIL NO. SS-G_SC003



THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: OCT. 2004 SCALE: N.T.S.
	TRENCH TERMINOLOGY	DETAIL NO. TR-G_TR001



NOTES:
1. SECTIONS, WHERE DIRECTED BY THE ENGINEER, MAY BE CONSTRUCTED IN UNIFORM LENTHS OF TWENTY (20) FT.S ON TANGENT, LENGTH MAY BE REDUCED FOR CLOSURE AND AT CORNERS TO NOT LESS THAN SIX(6) FEET.
2. BASIS OF PAYMENT: PER LINEAR FOOT (INCLUDING VARIABLE HEIGHT CURB)
3. CONCRETE CURB AND GUTTER IN ACCORDANCE WITH GEORGIA STATE HIGHWAY SPECIFICATIONS SECTION 441 (2001 EDITION)
4. SEE STD. CURB CATCHBASIN-NO.CB-1 & CB-2

THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: JAN 1997 SCALE: N.T.S.
	CONCRETE CURB AND GUTTER	DETAIL NO. TR-B_CG001

ch2m: ROHADFOX
676886
HM-SD-1_676886.dwg
SD-01

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

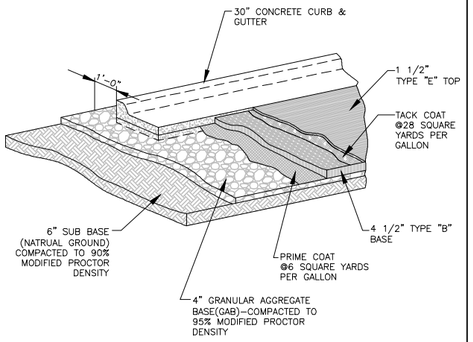
HOWELL MILL ROAD SEWER IMPROVEMENTS
STANDARD DETAILS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET OF 27 29

100% REVIEW DOCUMENTS

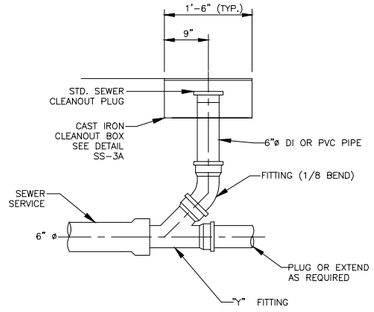


NOTE:
ASPHALTIC PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH GEORGIA DOT SPECIFICATIONS. ASPHALTIC TYPES AND MIXES SHALL BE GEORGIA DOT APPROVED MIX TYPES.

THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

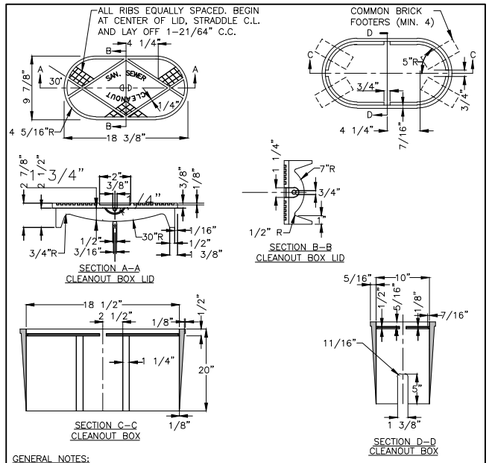
City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	RESIDENTIAL STREET PAVEMENT SECTION	DETAIL NO. TR-G_PV010

NOTE: TOP OF CLEANOUT BOX SHALL BE FLUSH WITH FINAL SURFACE IN SIDEWALKS AND PAVED AREAS



THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	SERVICE CONNECTION CLEANOUT	DETAIL NO. SS-G_SC004

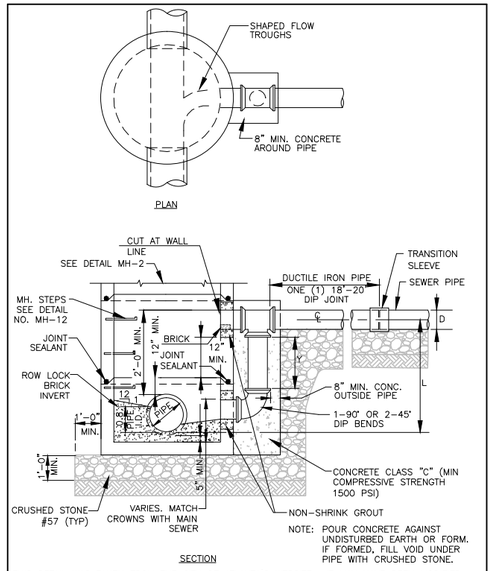


GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, CAST IRON SHALL CONFORM TO A.S.T.M. SPECIFICATIONS A48 LATEST REVISION FOR CLASS 20 GREY IRON CASTINGS.
2. CASTINGS SHALL BE TRUE AND FREE OF HOLES. THEY SHALL BE CLEANED ACCORDING TO GOOD FOUNDRY PRACTICE, CHIPPED AND GROUND AS NEEDED TO REMOVE FINS AND ROUGH PLACES.
3. FINISHED CASTINGS SHALL BE COATED INSIDE AND OUTSIDE WITH COAL TAR PITCH VARNISH AS INDICATED IN A.W.W.A. SPECIFICATIONS C110, LATEST REVISION. COATING MAY BE APPLIED COLD AND SHALL BE SMOOTH, GLOSSY, NOT BRITTLE WHEN COLD, NOT STICKY WHEN EXPOSED TO THE SUN, AND SHALL ADHERE TO THE METAL AT ALL TEMPERATURES.
4. WHEN COATING IS COMPLETE, LID SHALL FIT SNUGLY WITHOUT ROCKING.

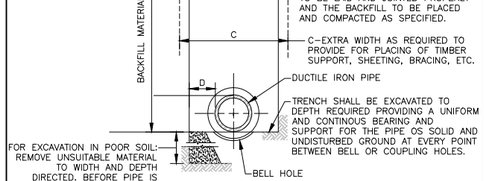
THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	SANITARY CLEANOUT BOX	DETAIL NO. SS-G_SC005



THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: SEPT 2011 ORIG. DATE: NOV 2004 SCALE: N.T.S.
	MANHOLE BASE WITH DROP CONNECTION	DETAIL NO. SG-G_MH005

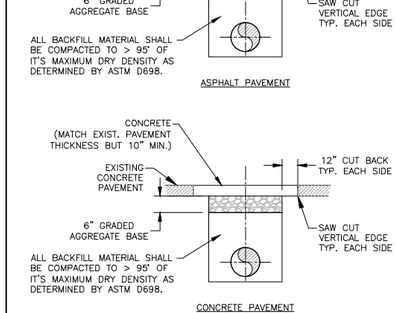


PIPE SIZE (NOMINAL)	A (MAXIMUM) EARTH/ROCK	B (MAXIMUM) EARTH/ROCK	C	D MIN./MAX.
6"	3.50'/4.00'	2.00'/2.50'	AS REQ'D	9"/12"
8"	3.50'/4.00'	2.00'/2.50'	"	9"/12"
12"	4.00'/4.50'	2.50'/3.00'	"	9"/12"
16"	4.50'/5.00'	3.00'/3.50'	"	9"/12"
20"	4.50'/5.00'	3.00'/3.50'	"	9"/12"
24"	5.00'/5.50'	3.50'/4.00'	"	9"/12"
30"	5.50'/6.00'	4.00'/4.50'	"	9"/12"
36"	6.00'/6.50'	4.50'/5.00'	"	9"/12"
48"	7.00'/7.50'	5.50'/6.00'	"	9"/12"

NOTES:

1. COMPACTION: BACKFILLS SHALL BE BUILT UP IN LAYERS AND EACH LAYER SHALL BE THOROUGHLY COMPACTED BEFORE BEGINNING ANOTHER LAYER. LAYERS SHALL BE NO MORE THAN 12-INCHES IN DEPTH, PUDDLING WILL NOT BE PERMITTED, NOR WILL FROZEN OR WET MATERIAL BE PLACED IN TRENCHES.
2. COMPACTION STANDARDS: ALL BACKFILL MATERIALS USED SHALL CONTAIN A SUFFICIENT AMOUNT OF MOISTURE FOR PROPER COMPACTION, AND THESE MATERIALS SMALL BE COMPACTED AT NOT LESS THAN 98% OF THEIR OPTIMUM COMPACTION FOR ANY SPECIFIC SOIL CLASSIFICATION. AS DETERMINED BY THE STANDARD PROCTOR TEST, ASTM D698.
3. COMPACTION TEST: COMPACTION TEST WILL BE REQUIRED IN EXISTING OR PROPOSED STREETS, SIDEWALKS, DRIVES AND OTHER EXISTING OR PROPOSED PAVED AREAS AT VARYING DEPTHS AND AT INTERVALS AS DETERMINED BY THE ENGINEER WITH A MINIMUM OF ONE TEST ON EACH JOB, AND A MAXIMUM OF ONE REQUIRED TEST FOR 400 FEET OF LESS OF WATER MAIN CONSTRUCTION, UNLESS SOIL CONDITIONS OR CONSTRUCTION PRACTICES, IN THE OPINION OF THE ENGINEER, WARRANT THE NEED FOR ADDITIONAL TESTS.

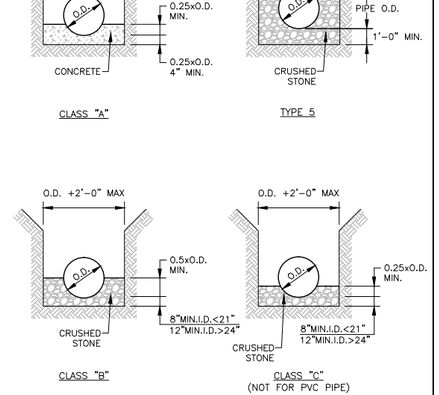
City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: OCT. 2004 SCALE: N.T.S.
	TYPICAL TRENCH SECTION	DETAIL NO. TR-G_TR002



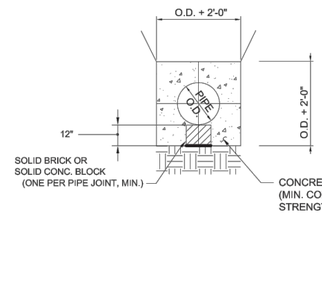
NOTE:
TYPE III PAVEMENT REPLACEMENT SHALL BE USED ONLY FOR, LONGITUDINAL INSTALLATION AND WHERE THE TRENCH WIDTH AT THE TOP OF PIPE IS GREATER THAN FOUR FEET.

THIS DETAIL WAS TAKEN FROM THE CITY OF ATLANTA'S WEBSITE. IT MAY HAVE BEEN MODIFIED AND SHOULD BE REVIEWED THOROUGHLY.

City of Atlanta	STANDARD DETAILS	REV. DATE: OCT. 2011 ORIG. DATE: OCT. 2004 SCALE: N.T.S.
	TYPE III PAVEMENT REPLACEMENT	DETAIL NO. WR-G_PV003



City of Atlanta	STANDARD DETAILS	DATE: JAN 1997 SCALE: NONE
	SEWER BEDDING AND HAUNCHING	DETAIL NO. G-2



U:\2002 Std Sewer Details\FINISHED\G-4 GTO01PD3.dwg 12/6/2004 2:12:54 PM EST

City of Atlanta Department of Public Works	STANDARD DETAILS	DATE: NOV 2004 SCALE: NONE
	CONCRETE ENCASEMENT	DETAIL NO. G-4

676886
HM-SD-2_676886.dwg
SD-02

811 Know what's below. Call before you dig.

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

REVISIONS NO.	DATE	DESCRIPTION

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
STANDARD DETAILS

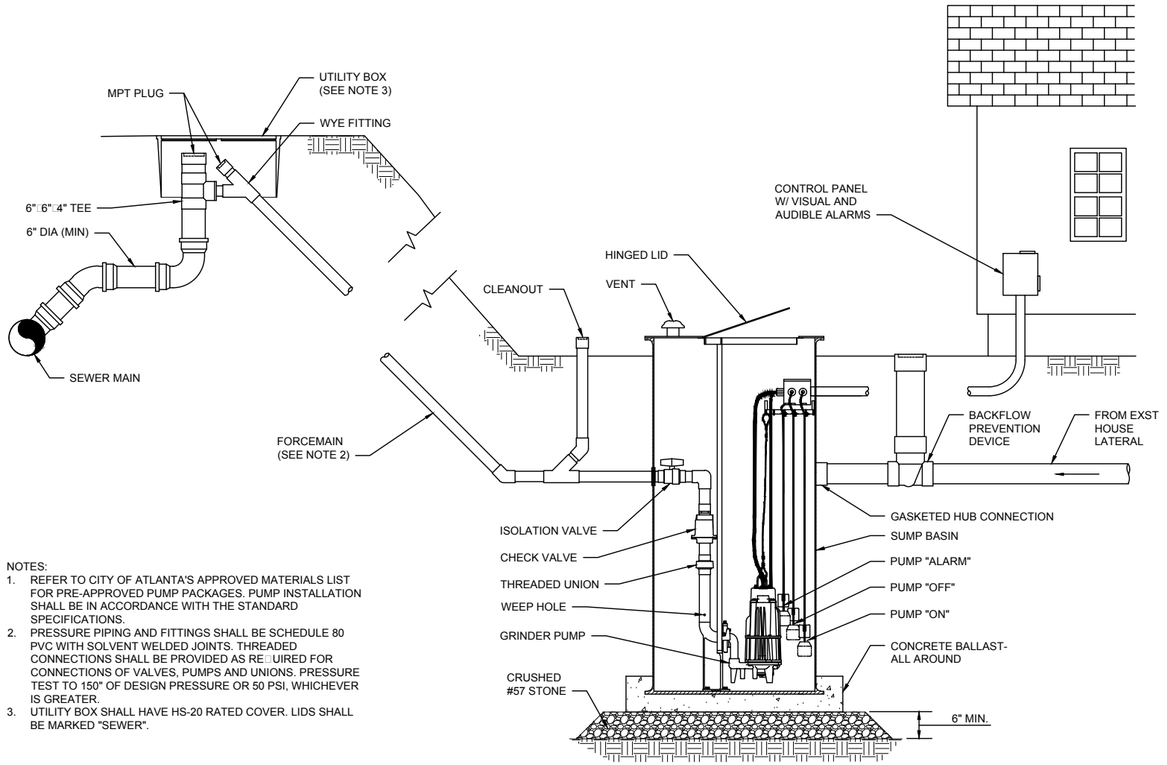
SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY D CORBETT	DESIGNED BY J BURTON	CHECKED BY D JENKINS	APPROVED BY T KELLEY	DATE JUN 2017

ENGINEER OF RECORD

PROJECT NUMBER:

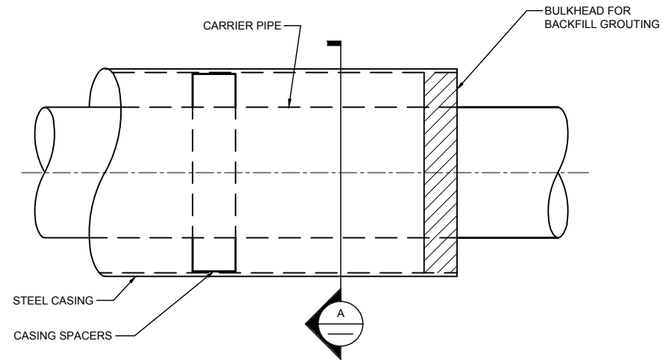
SHEET OF 28 29

100% REVIEW DOCUMENTS

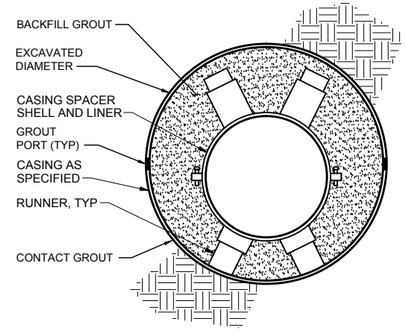


NOTES:
1. REFER TO CITY OF ATLANTA'S APPROVED MATERIALS LIST FOR PRE-APPROVED PUMP PACKAGES. PUMP INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. PRESSURE PIPING AND FITTINGS SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELDED JOINTS. THREADED CONNECTIONS SHALL BE PROVIDED AS RE□UIRED FOR CONNECTIONS OF VALVES, PUMPS AND UNIONS. PRESSURE TEST TO 150" OF DESIGN PRESSURE OR 50 PSI, WHICHEVER IS GREATER.
3. UTILITY BOX SHALL HAVE HS-20 RATED COVER. LIDS SHALL BE MARKED "SEWER".

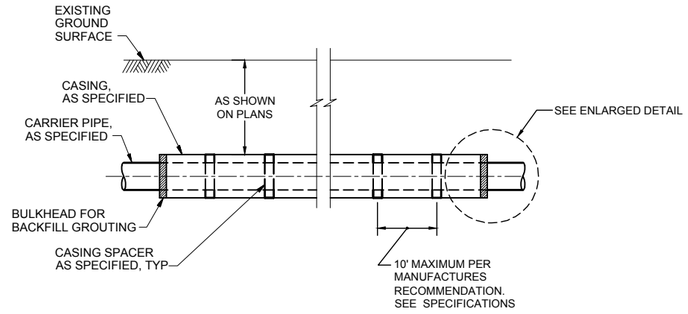
1 RESIDENTAL LOT PUMPING SYSTEM
NTS



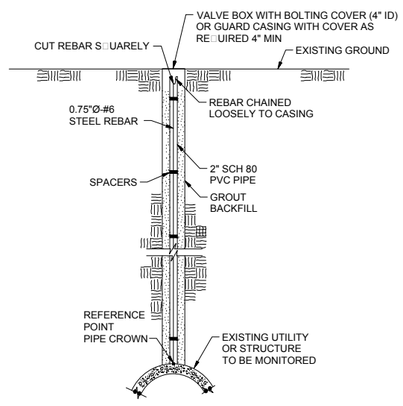
ENLARGED DETAIL



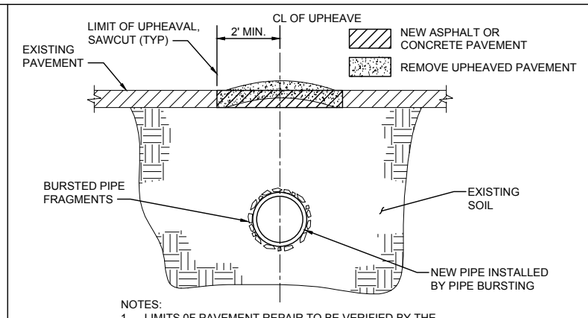
A SECTION
NTS



3 TYPICAL ENCASEMENT DETAIL
NTS

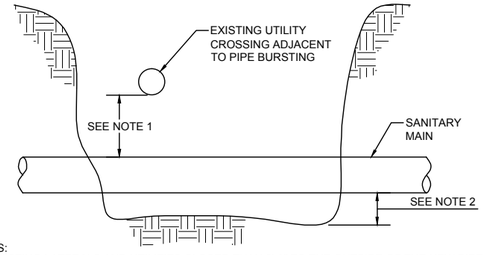


2 UTILITY SETTLEMENT MONITORING POINT
NTS



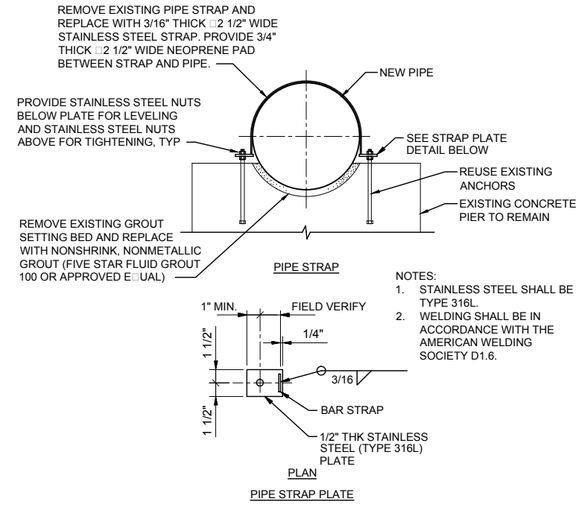
NOTES:
1. LIMITS OF PAVEMENT REPAIR TO BE VERIFIED BY THE DEPARTMENT OF WATERSHED MANAGEMENT OR ITS APPOINTED REPRESENTATIVES AFTER PIPE BURSTING.

4 SURFACE UPHEAVEL REPAIR
NTS



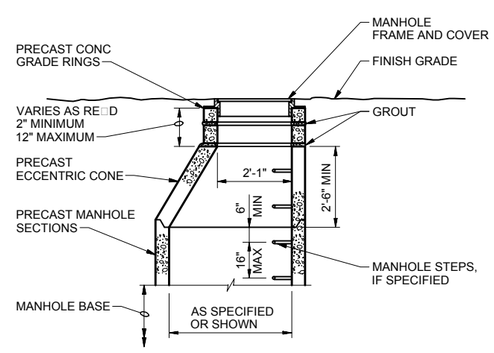
NOTES:
1. EXISTING LATERALS AND UTILITIES CLOSER THAN 2'-0" TO THE OUTSIDE OF THE NEW PIPE SHALL BE EXPOSED DURING THE PIPE BURSTING.
2. EXCAVATE COMPLETELY AROUND THE SANITARY SEWER MAIN TO BE BURST. MAINTAIN 3'-0" OF CLEARANCE FROM SOIL TO THE NEW PIPE OUTSIDE DIAMETER TO ENSURE THE BURSTING HEAD DOES NOT RAISE UP THESE LOCATIONS.
3. REMOVE ANY LOOSE AND□OR NATIVE SOIL FROM THE EXCAVATION AFTER BURSTING/REAMING OPERATIONS AND PRIOR TO BACKFILL.
4. BACKFILL AND SURFACE RESTORATION SHALL BE AS SPECIFIED IN 02200, EARTHWORK.

5 RELIEF PIT FOR PIPE BURSTING
NTS



NOTES:
1. STAINLESS STEEL SHALL BE TYPE 316L.
2. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY D1.6.

6 PIPE STRAP DETAIL
NTS



7 ECCENTRIC MANHOLE TOP SECTION
NTS

DRAWING IS TO BE CONSIDERED PRELIMINARY UNLESS APPROVED

CH2M HOLL FOX
676886
HM-SD-3_676886.dwg
SD-03

811 Know what's below. Call before you dig.

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEER OF RECORD

CITY OF ATLANTA
DEPARTMENT OF WATERSHED MANAGEMENT
OFFICE OF ENGINEERING SERVICES

HOWELL MILL ROAD SEWER IMPROVEMENTS
STANDARD DETAILS

SURVEYOR	FIELD BOOKS	L.L. DIST.	COUNTY	SCALE
			FULTON	NTS
DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
D CORBETT	J BURTON	D JENKINS	T KELLEY	JUN 2017

PROJECT NUMBER:

SHEET OF 29 29

100% REVIEW DOCUMENTS